DANISH FUNGI

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AS REPRESENTED IN THE HERBARIUM OF

E. ROSTRUP

REVISED BY *J. LIND*

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THE COLLECTION OF DANISH FUNGI LEFT BY THE LATE PROFESSOR E. ROSTRUP.

SHORTLY after the death of Professor E. ROSTRUP Ph. D. which occurred on January 16. 1907 I was intrusted with the honourable task of preparing a list of all the species of Danish fungi found in his herbarium. This herbarium was acquired by the University of Copenhagen and has been included in the Botanical Museum of the University. On account of the copiousness of this herbarium the list will comprise all species of fungi which have hitherto been found in DENMARK as far as concerns the groups of fungi with which ROSTRUP was mostly occupied. However, in preparing the list I have also endeavoured to point out what an uncommonly diligent man and accurate researcher ROSTRUP has been. It was my intention in this way to establish a memorial in honour of E. ROSTRUP as a mycologist and phytopathologist which shall bear witness in foreign countries to the modest and laborious man whose significance to science was never fully understood there because he mostly wrote in Danish. I shall give no biography of E. ROSTRUP, several having already been published or beeing under preparation, I shall only give a short outline of the work of ROSTRUP as a mycologist and phytopathologist.

ROSTRUP's reason for turning to the study of fungi must be sought in his great love for nature, his immense interest in all living things in field and wood, his desire for knowing the names of all the creatures he saw. In his earlier years ROSTRUP occupied himself very much with the singing birds, their splendid plumage and their beautiful singing; he was thoroughly familiar with all the flowering plants of Denmark and published, in 1860, his wellknown and much appriciated "Vejledning i den danske Flora" (Guide of the Danish Flora). Having finished this work ROSTRUP began to observe the lower plants, and during his daily walks in the neighbourhood of Skaarup in the south of the fertile Island of Funen his attention was drawn to the multicoulored toadstools, the queerly shaped Hydnaceae and the stout Polyporaceae on the trunks of the trees. ROSTRUP began his study of fungi on August 31. 1860. On his first excurcions he chiefly collected the gay Agarica-

ceae of autumn, but also Lycoperdon, Boletus etc.; on his return home he tried to determine the species by means of the literature found in the Skaarup Training School viz. SCHUMACHER's Enumeratio, HORNEMANN's Plantelære II (Botany) and fragments of the mycological works of EL. FRIES, but in his diary he complains of the difficulty of obtaining accurate information from these sources. With his usual sense for order and thoroughness he began, on that very day, to jot down accounts of all his discoveries and observations in special mycological diaries which he continued to keep in the same unaltered shape and in the same style until his death, in January 1907, or during more than 46 years.

I have emphasized the above statement concerning the diaries as it clearly shows that ROSTRUP began his study of fungi as a mere self-taught man he had no teacher, no guide; nor did he obtain his interest in the fungi through books; it was the fungi themselves in the open which called him. Whether they were eatable or not was, without doubt, of no interest to him, but they posessed another quality which soon claimed all his attention, it was the injury they — as parasites — might cause to living plants. He himself writes about this (R 85 h [278]): "As I have always, if possible, tried to combine my scientific researches with useful objects I was soon, by the said studies, lead to researches of the relation of parasitic fungi to diseases of plants a subject in which later on I have always interested myself from choice."

The first mycological article written by ROSTRUP on cultivation of sclerotia was merely of a systematic character later on the pathological subjects became predominant. He was simply forced by practical plant-growers to occupy himself more with the phytopathology. As, in 1870, he had published a short account of the diseases of field-plants he received numerous inquiries concerning this subject; in 1876 he also wrote about the diseases of horticultural plants and, in 1878, about those of the forest-trees, and accordingly horticulturists and foresters now applied to him. In this manner he obtained several parasitic fungi for his herbarium, but it also involved his giving up his position as teacher at the Skaarup Training School. He went to Copenhagen where the offices as lecturer of phytopathology at the Royal Veterinar and Agricultural College and Chief Consulting Pathologist were established for him in particular. In these capacities ROSTRUP was active till he died; and he was exceedingly useful to all branches of work with which he came in contact on account of his great knowledge, his reliable friendship and kindness to all who sought his advice, and the great zeal with which he tried to let all who desired it benefit from his useful knowledge by publications, lectures, letters, exhibitions etc. Everyone applied to Rostrup for advice; his huge collection of

letters now kept in the Vet. and Agricult. College witness how people of all classes came to consult him, not only in questions concerning fungi, but also concerning all forms of botany, the culture of plants, prevention of weeds and the legislation against parasitic fungi etc.

Already while a teacher of science at the Training School of Skaarup (1858—1883) ROSTRUP occupied himself with all branches of mycology, no group of fungi was unknown to him, indeed the substratum — be it living plants or animals, dead or foul remnants, earth or water — will scarcely be found where he has not sought and found fungi. He always made a note of what he found including it in his herbarium so that his discoveries might be of use when an account of all the fungi of Denmark should once be written. The exploration of Denmark was of particular importance to him, and he most frequently spent his summervacations in different, remote parts of the country ardently collecting fungi; he several times stayed at Hornbæk and Tisvilde in the north of Seeland, once in the Isle of Fænø in Lillebælt, at Sæby in Jutland, in his native farm Stensgaard in Lolland, in the Isles of Bornholm and Langeland. On these summer-excursions ROSTRUP was always accompanied by his family: MRS. ROSTRUP, their daughter ASTA and sometimes also their son OVE; they too contributed to the great treasures of fungi which were brought back for the herbarium. ROSTRUP also frequently took part in the excursions of the Botanical Society, and it is evident from the reports of these that many fungi were always found when he was present. As a teacher of the students in forestry at the Vet. & Agricult. College each year he was one of the leaders of one or more excursions to the forests. Rostrup also liked to make little trips, most frequently to the beautiful parts of the north of Seeland, together with a few friends interested in botany; his son, OVE ROSTRUP, F. KØLPIN-RAVN, S. RÜTZOW, C. RAUNKIÆR, E. WARMING and a great many others have joined in those little, private excursions.

Among the more remote parts of Denmark ROSTRUP once visited THE FÆRØES he has also — though seldom — been abroad: he once went to the DITMARSHES, paid three visits to NORWAY (Hamar 87, Dovre 91, Valdres 1900) and two to SWEDEN (Sundsvall 82 and Båstad 02). These journeys often resulted in accounts of the fungi found during the same (The Færøes R 70 a, Norway 91 l, Sweden 83 b), but ROSTRUP also spent much time and much strength in revising and describing the fungi collected by others particularly in the Far North (ELLESMERE LAND 06 bb, GREENLAND 88 b, 92 a, 94 d, 04 g, ICELAND 85 b, 87 i, 03 b, SPITZBERGEN, Wulff 02, THE FÆRØES R 96 r, 01 n and NORWAY 86 m, 04 f, 05 a, 06 c) occasionally also fungi of quite exotic

countries f. inst. CENTRAL ASIA (07) and SIAM (02 d); these works are, however, outside the limits of the present work.

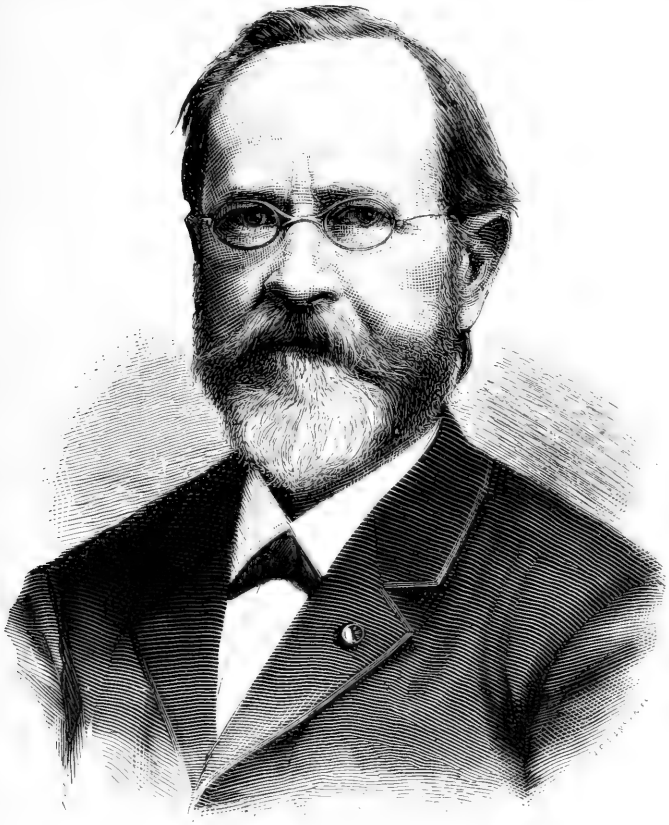
As a phytopatologist ROSTRUP occupied himself not alone with the useful plants of agriculture but in an equal degree with those pertaining forestry and horticulture. The noxious animals were by no means unknown to him, he took a great interest in entomology and zoocecidia, but he never published anything on these subjects, those parts of pathology he left completely to his friend and colleague I. E. V. BOAS Ph. D. and his daughter-in-law Mrs. SOFIE ROSTRUP M. S. ROSTRUP limited himself to the parasitic fungi, and in his great and fine work, THE PATHOLOGY OF PLANTS, published in 1902, he has given a splendid account of the influence of the Danish (and some foreign) parasitic fungi on cultivated plants. The parasitic fungi of wild plants was of equally great interest to ROSTRUP (see the numerous reports of his excursions in the "Botanisk Tidsskrift" and his mycological reports).

He also took a great interest in Merulius lacrymans and other fungi on timber (see R 76 a & 98 a). On the whole ROSTRUP was consulted every time the use or injury of fungi to man was discussed; when useful domestic animals had fallen ill by eating food infected by fungi, as also when parasitic fungi were to be used for the controlling of insect pests in hothouses or of caterpillars in the fields etc.

ROSTRUP has also dealt with the taxonomy of the fungi f. inst. by the preparation of the relevant part of WARMINGS Systematical Botany. The biology of the fungi, the knowledge of their development, their relation to their host-plants and — as far as concern the rusts — their heteroecism is so closely connected with the phytopathology that ROSTRUP was always much occupied with it; among his works on the biology of fungi I must mention in particular those which, in the list of literature at the end of the book, are called R 66, 74 a, 85 a, 96 b & 96 o.

Nobody was so familiar with the history of the research of fungi as E. ROSTRUP; in BRICKA's Biographic Dictionary he has written detailed biographies of all the late Danish mycologists, and the greater part of the information which I have collected below originates from him. In the "Botanisk Tidsskrift", and other periodicals are numerous obituaries of late mycologists written by ROSTRUP. ROSTRUP's studies in SCHUMACHER's herbarium is of particularly great value (R 85 g, see also R 93 b, 98 q). It was a matter of course that he interested himself in the history of that branch of science in which he was so totally absorbed. He has also collected all the legends and noted down all the superstition referring to cryptogames (R 1875). Up to the very last days of his life he continued to collect curious notices from newspapers on the fungi which he kept in his scrapbook.

The fungi which have been living in Denmark in earlier geological periods and which are now found in fragments of plants in moors



E. ROSTRUP c. 1885.

etc. were always brought to ROSTRUP for determination (see f. inst. Hartz 09, R 98 q).

It was a great help to ROSTRUP in his study of the fungi that he had such a thorough knowledge of all the phanerogames in this country; he knew the normal exterior of all the plants and was at once able to see if they were ill or ailing in any way he was even able to determine tiny fragments of living or dead plants, and only very seldom was he caught in the trap in which phytopathologists are often caught: to be mistaken in a parasitic fungus because of being mistaken in the substratum. He know every single species of the wild plants of Denmark, of which the ten editions of his "Vejledning i den dan-

ske Flora" (Guide of the Danish Flora) bears witness. ROSTRUP possessed such a knowledge of horticulture that he was able to publish new and revised editions of F. I. C. JENSEN's popular book on horticulture after the death of the original author. From 1894—1903 he was the president of the Royal Danish Horticultural Society and 1900—1903 president of the Cooperating Horticultural Societies and honourable member of the Gardener's Association as also of the Royal Danish Horticultural Society.

Moreover ROSTRUP had the same thorough knowledge of cultivated plants of agriculture as of horticulture; born and bred on a farm and spending the greater part of his life in the country, a man of his genius for botany could not help becoming very familiar with all the cultivated agricultural plants, both the chief species and the varieties. In 1865 he published an account of the principal field-grasses and in 1877 in connection with JOHAN LANGE an account of Danish species of forage. But he did not content himself with the study of the plants, he displayed great energy in procuring better, more prolific and more yielding cultivated plants for the farmers. He was one of the most active members of the Association for the Improvement of Cultivated Plants, he held the offices of secretary and editor of the Association, and he was a great help to MØLLER-HOLST in the starting of "DANSK FRØKONTROL" (The Danish Seed-inspecting Office) which was originally a private enterprise, but later on was taken over by the State. Also by working for the extermination of weeds he tried to give the farmer greater profit from his fields and his labour, and by this work ROSTRUP entered into close connection with all the leading farmers.

ROSTRUP had just as thorough and extensive a knowledge of the forest-trees; he had an eye open to the different resisting power of the different species against diseases; he often drew the attention of the foresters to the fact that seeds of different origin produce plants not equally susceptible to diseases.

ROSTRUP was altogether quite up to date with his own time as far as concerns the branches of science with which he dealt. He knew his own limitation, and we never see him venturing into territories with which he was not completely familiar; he has to a higher degree than is generally the case been useful to this country by making his scientific experiences accessible to the practical man. His great and rich activity was appreciated by his contemporaries, he greatly influenced all the institutions and branches of industry with which he was connected; his directions for cultivation were always regarded because his knowledge and experience were to be trusted. The lectureship which was established for him at the Vet- & Agricult. College was, in 1902, made professorship, July 28. 1894 he was made Dr. Ph. hon.

causa of the University of Copenhagen, and he was decorated with Danish, Norwegian and Swedish orders. All these well-deserved distinctions were the outer signs of the great respect he had gained in all circles; ROSTRUP himself was a most modest man who sought in no way to obtain such distinctions, but there is no reason for disbelieving that he was not pleased to receive such official proofs that both Science and Governments appreciated the great and unselfish work which ROSTRUP performed for his own country and for the neighbouring realms. Still I believe that he was much more pleased with the tribute of the practitioners expressed by the everincreasing number of inquiries which were submitted to him as Chief Consulting Pathologist and the everincreasing number of fungi from Denmark and from foreign countries which were submitted to his determination.

In his herbarium of Danish fungi all the mycological interests of ROSTRUP were concentrated; there he collected all the parasitic fungi he found on his summerexcursions and botanical trips; even from excursions with his pupils from The Vet- & Agricult. College or from a lecture trip to a provincial town or from an exhibition something was always brought back for his herbarium. The numerous inquiries from practitioners all over the country supplied some material to the herbarium. "My patients are sent to me by letters," ROSTRUP once said to a doctor, "that is not the case with yours." And Rostrup's many friends all over the country sent him all that they could find, seeking information concerning them and so pleasing the man himself, for it was a particular characteristic of the late mycologist that he always granted everybody all the help he could afford, making it appear as if it was a great pleasure to himself — which was also very often the case. It caused him sincere joy every time he was able to include in his herbarium a rare fungus which might not have been found before in this country — whether it be he had found it himself or whether it had been sent to him by another person.

It is difficult to tell how many specimens are found in the herbarium of Rostrup, but I think about 30,000, most of them collected by himself. Of the common species only a few specimens are found; it was only the fungi that seemed to be of particular interest which were included in the herbarium. The fungi which were too big to be kept in this manner (Polyporus etc.) or which must be kept in alcohol-spirit (Isaria, Entomophthora) are to be found in the phytopathological collection of the Vet- & Agricult. College. ROSTRUP's marked sense of order is also seen by his having not less than two written lists of the fungi in the herbarium.

All the fungi which ROSTRUP found in foreign countries or procured

by exchange are found in another herbarium completely separated from the Danish herbarium.

Rostrup very soon came to occupy the position of leader of the mycological investigations of Denmark, a position formerly held by Kylling and the various editors of Flora Danica as far as concerns all the Danish plants. All finders of fungi sent information of them and specimens for his herbarium to Rostrup. Below I have stated the names of most of those who sent fungi for the Danish collection.

In this manner Rostrup's herbarium was an unwritten list of all fungi found in Denmark within the groups of fungi in which he was interested. Agaricaceae which are difficult to keep in dry condition practically form a group of fungi which most frequently has its own lovers; the mycologists occupying themselves with Agaricaceae are generally not interested in other fungi and vice versa. Saccharomycetes, Mucoraceae and the submerged Phycomycetes are groups which, from a systematical point of view, belong to the fungi but are subjects for practically special studies which are seldom combined with the study of other fungi, while many scientists do not recon myxomycetes, Lichens and Schizomycetes among the real fungi. Therefore these groups are quite or partly omitted in this account of Rostrup's fungi; fortunately they have been discussed separately by others the Agaricaceae by Severin Petersen (1907), the submerged Phycomycetes by Henning Petersen (1905 & 1909), the Myxomycetes by C. Raunkiær (1888), the Lichens by Rostrup and Deichmann Branth (1869) and the Saccharomycetes by E. C. Hansen and several others. The result of Rostrup's indefatigable efforts through fifty years to collect and revise material of the knowledge of the localities of the Danish fungi is that Denmark is, at present, one of the best investigated countries of the world. As the number of Phanerogams in this country is poor (c. 1400 species) compared to that of other countries (f. inst. mountainous countries as Switzerland) it was not to be expected that any large number of fungi should be found in Denmark. The small extention of the country (about 39,000 □-km.) will of course facilitate the investigation very much; the principal thing is, however, that the country possesses men who with energy and skill will work for its investigation. Through the work of Rostrup and his assistents the presence of so great a number of fungi has been proved in this country that only a few parts of Germany (Brandenburg, Silesia, Bavaria), Switzerland, Tyrol and the north of Italy may claim to have hardly as thorough an investigation.

After the death of Rostrup on January 16. 1907 a fine monument was erected in his honour in the garden of the Vet- & Agricult. College. His biography is to be found in many places, especially to be

noted are the articles in Botanisk Tidsskrift vol. 28, p. 185—198 by Kolderup Rosenvinge Ph. D. and Ber. d. Deutschen Botanischen Gesellschaft vol. XXVI a (47—55) by F. Kølpin Ravn Ph. D. A more copious biography is being prepared.

In order to give a better idea of the significance of Rostrup to the development of the mycology and the phytopathology of Denmark I shall give a short account of the history of these branches of science in this country before the time of Rostrup.

DANISH MYCOLOGISTS PREVIOUS TO ROSTRUP.

In the middle of the 17. century the study of the different branches of natural science made great progress at the University of Copenhagen under such men as Thomas Fincke, Ole Worm, Olav Borch, Otto Sperling, Nic. Steno, Thomas Bartholin etc. In this period, medical science was developing and pharmacy, anatomy and surgery were beginning to assume more independent forms. Danish scholars were in active communication with those of foreign countries, they were studying at the universities of Leyden, Paris, Padua etc., and foreign scholars came to Denmark either to settle, or to pay a visit to the country. The close relation of botany to medicine and pharmacy caused its introduction into the University; the first botanical garden or »hortus medicus« had already been started about 1600, but neither by that time nor during the succeeding 150 years was botany an independent subject at the University; it depended on the medical professor alone how much time might be spent in this study.

The first professor of the University who occupied himself with the botanical investigation of Denmark was Simon Paulli. He held the office of professor of medicine from 1639 till he died in 1680. Paulli was born in Rostock on April 6. 1603, but he came to Denmark while a boy and always considered Denmark his native country. He was especially interested in botany, and at least once a week he went outside the walls of the town "herbatim" with the pharmaceutical and medical students. His principal work "Flora Danica" or "Dansk Urtebog" is a very considerable work in quarto. All plants known in Denmark at that time both wild and cultivated, are considered especially in regard to their medical use, which is to be expected from a herbal for medical students. The only fungus mentioned in it is Auricularia judae which is recorded to be common on old Sambucus nigra; it enjoyed a certain reputation as a remedy against inflamation of the eyes.

Many more fungi are, however, found in KYLLING's books which were published about 40 years later. PEDER KYLLING was not professor at the University. However, shortly after the death of SIMON PAULLI, the title of ROYAL BOTANIST was bestowed upon him (September 19. 1682), and he obtained a salary of 300 Rdl. with the understanding that he was to investigate all parts of DENMARK and record all the wild plants. He also had to botanize with pharmaceutical and medical students, indeed even the king's sons accompanied KYLLING when he made excursions into the country with the students. He travelled all over DENMARK and NORWAY and had a great many assistants all over the country. Several of these have also made their names known f. inst. HENRIK GERNER, at that time rector of Birkerød later on bishop of Viborg, PEDER SYV, the collector of proverbs, CHRISTOFFER HERFURT, apothecary in Copenhagen etc.; all were diligent in sending him what they found both Phanerogames and Cryptogames. In KYLLING's first book, the little duodec "CATALOGUS PLANTARUM GYLDENLUNDENSIUM", published in Copenhagen 1684, are mentioned only the names of the plants he found on his excursions to GYLDENLUND, now CHARLOTTENLUND, a little wood about 10 km from the City. In this book he mentions two fungi of which one is recorded as a "Svamp, som brugis udi Fyertøy" (fungis used for tinder boxes) consequently the same as Polyporus fomentarius, and the other as "Ulfve=Fiis" which was a common name for all the larger species of Lycoperdon. On March 30. 1688 his principal work "VIRIDARIUM DANICUM" was published, and considering the time an excellent work with descriptions of the plants then known, among those 32 fungi. Some of them are easily recognizable. "Fungus cerasorum" which he found on old Prunus avium in the garden at "Valkendorfs Boder" (where he lived) is Polyporus igniarius, "Fungus ribis" which he found in the same place on old Ribes rubrum is Polyporus ribis; "Fungus unguis equini figura" on old Fagus must be Polyporus fomentarius, "Fungus viscosus" on wood and trunks may possibly be Bulgaria inquinans; the name of "queer fungus" may be applied to many fungi, but the description "foetido, penis imaginem referens" leaves no doubt. Among others HENRIK GERNER sent him "Fungilli caliciformes seminiferi" which may be Cyathus olla, and "Fungus calicaris major", a large, gray cup like fungus which may scarcely be anything but the sterile base of Calvatia caelata; but it is to be doubted whether the fungus called "Sheep's teeth, Fungus ramosus minimus instar dentium ovium variegatis ex albo et niger", in master Henrik's garden in Birkerød is Xylaria hypoxylon. More of the stated species I have been unable to classify and I also think it must be doubted whether they are fungi f. inst. "Fungus nido hirudinum innascens". At any rate PEDER KYLLING need

not be deprived of the honour of being the first to start a systematic research of the Danish fungi and their distribution. Unfortunately the work was interrupted by the death of KYLLING 1696 and for many years to come nobody interested themselves in botany or mycology.

It was not until three quarters of a century later, when, in the middle of the eighteenth century, LINNÉ had revived the botanical study, and men like MICHEL, GLEDITSCH, STERBECK and HALLER had commenced to describe the species of fungi that the study of fungi was resumed in DENMARK. The opticians had learned how to make better magnifying glasses, and the zoologists had made great progress in their science; consequently the different subjects of study were more definitly separated than formerly. Contemporary with BATSCH, HOFFMANN, SCHAEFFER, SCHRADER, ALBERTINI AND SCHWEINITZ, BOLTON, JACQUIN, BULLIARD AND PERSOON are five Danish naturalists each of whom separately performed a significant work for the improvement of the knowledge of fungi; they are: HOLMSKJOLD, OEDER, O. F. MÜLLER, M. VAHL and SCHUMACHER.

TH. HOLMSKJOLD.
Reproduction of a part of the said painting by Jens Juel.

THEODOR HOLMSKJOLD was originally a student of medicine, but having, taken a long journey in foreign countries in company with FRIIS ROTTBØLL, the botanist, he was appointed professor of zoology and botany at the College of Sorø (1762—65). Later on he abandoned this professorship for other professions. His original name was TH. HOLM, when, however, in 1781, he was knighted he assumed the name of HOLMSKJOLD. ROSTRUP has described his life in Bricka's Biografical Dictionary. His principal study was pure mycology and both while living at Sorø and during the two succeeding years which he passed in Aarhus much time was spent in observing the fungi in the forests especially Agaricaceae, Clavariaceae and Discomycetes. He did not care to find many different species, but he examined each separate one the more thoroughly, made the skilful artist NEANDER paint them in natural size and himself wrote a very long description of their shape, structure, varieties and mode of growing with numerous references to former authors.

The morphology of the fungi occupied much of his attention. In the first plate of "Beata ruris" 36 small figures are found, all numbered but without any text. It seems as if they were intended to represent the "seeds" and "roots" of the Clavariaceae. Not until 20

years after Holmskjold had collected the fungi and Neander had painted them was the first volume of Holmskjolds principal work published (1790); the second volume was not published until after the death of Holmskjold (1799); the king defrayed the expenses of the publication. It was a splendid edition in folio, the figures were reproduced as engravings and the most favoured persons even received handpainted copies. Only one species of fungi is reproduced on each plate, while the text is printed in Latin and in Danish. "Beata ruris" as it is generally called, deserved the sensation its appearance made both on account of its elaborate make-up and of its valuable observations; Retzius calls it "the most brilliant work which had appeared up to that time", and Persoon writes: "Praecipue hoc quoque valet de iconibus, quae ratione artis, nec non pulchritudinis omnibus mihi notis vegetabilium deliniationibus palmam facile praeripiunt." The Latin text of the first part was printed in "Usteri's Annaler" 1795, and Persoon published it under the name of "Coryphaei Clavarias Ramariasque complectentes cum brevi structurae interioris expositione", to which he added his: "Commentatio de fungis clavaeformibus, sistens specierum hucusque notarum descriptiones cum differentiis specificis". Leipzig 1797. Persoon's "Commentatio" was, however, also published separately. El. Durand wrote about Holmskjold's publications in The Journal of Mycology, July 1907. As a curiosity it may be mentioned that "Beata ruris" is not yet out of print, a few plates are missing, but otherwise the material of the whole work still rests with the publisher. Most of Holmskjold's figures are easily recognizable; Severin Petersen has quoted all Agaricaceae (1907), and I have in the present work classified all the other species. Holmskjold is the author of Clavaria fistulosa, contorta and cristata, Cordyceps capitata, Helvella pulla and Cyphella capula. He was the first to observe that Cordyceps militaris was a fungus growing on dead insects in the earth, for then it was generally believed that it was the dead insect itself that was transformed into a fungus (see R 93 b).

Holmskjold died in 1793; a splendid painting of himself his wife and his daughter done by the famous Danish painter Jens Juel is in the possession of Mr. I. Vleugel customhouse officer at Luleå; I have caused a reproduction of the same to be published in the series of portraits of Danish botanists which is being published by the Danish Gardener's Association. (A portrait of Rostrup is also found in the same series).

Georg Christian Edler von Oeder was born at Anspach 1728; he was a disciple of Haller. In 1752 he was called to Denmark by Bernstorff, the statesman. Two years later he was appointed professor of botany at the University of Copenhagen, an office he held until 1770,

when he changed his profession. He was a man of many ideas and in great favour with the leading statesmen; he therefore succeeded in inducing the king to pay the expenses of the publication of a work in folio which was to contain artistic pictures and descriptions of all wild plants in Denmark and its dominions. It was OEDER's plan that corresponding works should be published at the same time in all other civilized countries, but only RUSSIA and AUSTRIA agreed to this scheme, and their interest soon flagged; only DENMARK continued, and the work started by OEDER in 1763 under the name of "FLORA DANICA" was continued from that time up to 1883. It now contains pictures of all Danish vascular plants and a great many lower cryptogames. The publication of this great work grew to be of very considerable importance in the botanical investigation of Denmark by supplying the various editors with pecuniary means and making it obligatory on them to travel in the country in order to collect material. The editor was accompanied by an artist who was able to make a sketch of the plants in their localities. As all the first four editors of the "FLORA DANICA" were more or less interested in fungi they caused a number to be sketched; as far as concerns the larger fungi the pictures are generally good, but it was rather a mistake to have the small or quite microscopic ones reproduced in this manner. OEDER was the editor of "FLORA DANICA" from 1763 to 1770, O. F. MÜLLER from 1771 to 1782, M. VAHL 1787—99, J. W. HORNEMANN 1804—40, F. M. LIEBMANN 1843—1853 and JOH. LANGE 1858—1883. Of the figures of fungi in the "FLORA DANICA" OEDER published 30, MÜLLER 78, VAHL 93 and HORNEMANN 563. It must, however, be noticed that the figures of fungi published by the latter almost all originate either from VAHL (149) or from SCHUMACHER (414). In 1840 it was resolved that the portrayal of the fungi should cease a very wise resolution indeed as, with the materials of that time, it was impossible to give a recognizable picture of the small fungi, and, in fact, there are many figures of fungi in the "FLORA DANICA" which are quite undeterminable. ROSTRUP has made great efforts to find the right names of as many of them as possible (see Joh. Lange: Nomenclator Florae Danicae, 1887, concerning FLORA DANICA see also Viborg: Historisk Udsigt over det Kongelige Værk Flora Danica, Skand. Lit. Selsk. Skrifter II 1806; Hornemann: Nomenclatura Florae Danicae emendata cum indice systematico

G. C. E. VON OEDER.
From an engraving in Halem: Andenken an Oeder.

et alphabetico, Hafnia 1827, Hornemann 37 b and R 85 g). EL. FRIES has contributed much to the explanation of the figures of the »FLORA DANICA« by quoting them in S. M., the same is the case with SEVERIN PETERSEN (1907) and RAUNKIÆR (88); I have, in most cases, followed the explanation of ROSTRUP. In only a few cases have I considered it just to make some alterations.

OEDER is the author of Chlorosplenium aeruginosum and of Helvella atra both brought to him by KOENIG from Iceland. OEDER has greatly promoted Danish mycology not only by giving the impetus to the publication of the "FLORA DANICA" but also by working enthusiastically on the emancipation of the Danish peasants from villenage, this being a necessary condition of the revival of interest in plant culture and plant diseases among the farmers.

O. F. MÜLLER.
From an engraving in his "Kleine Schriften".

The well-known zoologist and botanist, OTTO FREDERIK MÜLLER, succeeded OEDER as editor of the "FLORA DANICA". He was born in Copenhagen 1730. At first he studied theology, but later on, especially after his appointment as tutor to count Schulin of Frederiksdal, he became a very enthusiastic naturalist who made many discoveries of microscopic animals and plants. He wrote several dissertations on them, while travelling abroad, and his papers were so scattered in different foreign periodicals that I have been unable to make myself acquainted with many of them. He did not content himself merely with the portrayal and description of the discovered fungi, but was also deeply interested in their biology. He describes (1775) how he has been watching Cordyceps militaris for hours in order to observe how change of wind and moisture made the fungus expel spontaneous clouds of spores. The same "dustingout", he has also studied with other Ascomycetes f. inst. Bulgaria inquinans, Helvella spp., Spathularia etc. He writes about Carpobolus that he has seen the fungus fling out all its contents so that it described a parabola through the air; if this shell meets some obstacle a crack like that of an Elater is heard. In another place he describes the colourless, ovate spores of the Agaricaceae and the spores of the Geoglossaceae, which under the microscope are like "black, stiff sticks". Pilobolus crystallinus has led him to write two dissertations (1768 & 82, see also Hansen 1878). He was a friend of "KONFERENZRAAD HOLM" (Holmskjold). They kept each other informed concerning the observations they made of the fungi. MÜLLER was a diligent man who has made not a few con-

tributions to the knowledge of the Danish fungi. Already in one of his first works he records 66 species of fungi which he has found near Frederiksdal and almost all of which may be referred to their proper species. He used a whole book for the description of Boletus edulis (1763) and he furnished it with good pictures. Of the new species of fungi recorded by MÜLLER may be mentioned: Roestelia penicillata, Clavaria inaequalis & rufa, Lasiobolus equinus, Aleuria aurantia and Verpa conica.

M. VAHL.
From an engraving.

MARTIN VAHL was born in Bergen on October 10. 1749. He studied botany with LINNÉ from 1769 to 1775, and was one of the pupils dearest to his master. Then he travelled much abroad, from the north of Norway to Tunis and on his return he was appointed lecturer and later on professor of botany at the University of Copenhagen. He was, no doubt, the most clever and diligent botanist in this country during that time, but unfortunately he died early (Decbr. 24., 1804), and his great work on the Danish and Norwegian fungi ("Fungi per regnum Daniae et Norvegiae crescentes") has never been published but the M. S. is in the library of the Botanical garden of Copenhagen. He succeeded, however, in publishing six volumes of the "FLORA DANICA", containing many good figures of fungi. He is f. inst. the author of Helotium virgultorum and phiala as well as of Armillaria mellea; he also had a stimulating influence on his contemporaries awakening their interest in botany. Both HORNEMANN and SCHUMACHER must be considered his pupils, the latter continued to receive much help from VAHL who, in the preface of his "Enumeratio", is called "Professor magni nominis VAHL, vir nominis immortalis botanicorum, illustrissimus."

HEINRICH CHRISTIAN SCHUMACHER (born 1757 at Glückstadt, died 1830 in Copenhagen) was a Copenhagen physician and had a large practice. He was also professor at the University and a man of high standing who held many public offices, so it is all the more praiseworthy that he, in his idle hours, has been able to collect and prepare so large a material of Phanerogams and Cryptogams as he did.

In his work, generally called "ENUMERATIO", he records 2189 plants among those 925 species of fungi. In the preface he writes that he has, during 22 years, roved through the country adjacent to Copenhague within about a 12 mile radius often accompanied by VAHL, who is called "amicus svavissimus". Of course many of those species of

fungi of SCHUMACHER's were new to science at that time, and his "Enumeratio" is of great importance to mycology in general, as also to the knowledge of the distribution of Danish fungi in particular. No other work gives, at the same time, so much information in this respect until, 100 years later, ROSTRUP published the second volume of his "Vejledning i den danske Flora" (R 04 a). ROSTRUP is justified in maintaining that the "ENUMERATIO" is an original of high repute, and a critical revisal of SCHUMACHER's work would solve many proplems. Several of the descriptions of SCHUMACHER's are up to this day repeated unaltered in manuals etc. without its being quite known whether they are autonomous species which have never been found again, or unrecognizable descriptions of species which are well known from other places. No doubt some of both are to be found; it has also happened that younger authors have wrongly identified fungi which they have found themselves and furnished with new and complete descriptions with the species of SCHUMACHER, f. inst. the fungus now called Amphisphaeria papillata (Schum.) de Not. has nothing to do with SCHUMACHER's Sphaeria papillata. ROSTRUP has occupied himself very much with the revisal of SCHUMACHER's "Reliquiae" (R 85 g & 92 g 69), he has compared SCHUMACHER's text in the "ENUMERATIO" 1) with the fungi of the herbarium left by SCHUMACHER which is still found in a comparatively good condition in the Botanical Museum, 2) with the hand-drawn and -painted pictorial work "FLORA HAFNIENSIS FUNGI DELINIATI", which is also found in the Museum in three volumes in folio, and 3) with the figures of fungi of the "FLORA DANICA" which we know originate from SCHUMACHER, 414 in all. The said pictures of SCHUMACHER's have been submitted to the examination of EL. FRIES, but that is not the case with SCHUMACHER's herbarium; he has included almost all SCHUMACHER's species in S. M. It often gives a useful hint to see what the clever mycologist thinks about SCHUMACHER's species, I have looked through SCHUMACHER's herbarium, and tried to gather material for the right understanding of all the fungi recorded by SCHUMACHER from all accessible sources, but it does not lie within the plan of this work to accomplish it consistently for all species. This would better be done in connection with a revisal of the said work of VAHL, which is, no doubt, of great value and till now quite untouched.

C. F. SCHUMACHER.
From an engraving.

After the publication of his "Enumeratio", SCHUMACHER proceeded to other studies, especially that of shells. However, in the great work on medical plants which he published in connection with Professor HERHOLDT he did not forget the fungi, but he mentions their medical use and their distribution. Among the various species of fungi named after SCHUMACHER is also — strange to say — Lachnellula Schumanni Rehm (III [863]); it appears from the text that REHM has wanted to name it after the author of the similar Peziza calycina Schum.

After the death of VAHL, the publication of the "FLORA DANICA" was intrusted to his pupil JENS WILKEN HORNEMANN (born at Marstal March 6., 1770). In 1808 he was made extraordinary and in 1817 ordinary professor of botany at the University of Copenhagen, an office which he held with great honour till he died in 1841. In many respects HORNEMANN was a skilful botanist, but he wanted interest in the fungi, and for this reason the long period in which he ruled botany uncontrolled was a dull time for mycology in Denmark. The number of figures of fungi published by him in the "FLORA DANICA" have almost all been borrowed from the posthumous sketches of VAHL or SCHUMACHER. It appears from the text that EL. FRIES has assisted him with their nomenclature. If HORNEMANN had had a little more interest in the fungi than was then the case, he might have been more attentive to the events during the so-called "barberry-war" which was raging like a second "Thirty Years' War" in this country during the greater part of his professorial reigm. If he had followed SCHØLER's remarkable experiments of infection of Aecidium berberidis with the understanding they deserved, he might easily have repeated them under other and safer conditions, thus making the discovery concerning the heteroecism of this species of rust which was made by DE BARY in 1866.

A whole series of Danish botanists partly contemporaries of HORNEMANN, partly his successors occupied themselves not at all with mycology, and will not be mentioned here. From SCHUMACHER to ROSTRUP there is only one famous Danish mycologist, viz. ØRSTED. This is all the more strange as, during the same period, the interest in mycology of our neighbouring country SWEDEN under the direction of EL. FRIES war very great.

ANDERS SANDØE ØRSTED was born at Rudkjøbing on Iune 21. 1816. His uncles on his fathers side were the famous statesman A. S. ØRSTED and the well-known physicist and natural philosopher H. C. ØRSTED. In 1854 he was made Ph. D.; on April 21. 1858, lecturer of botany, 1860 professor. He died Septbr. 3. 1872. He made a journey in Central America where, like LIEBMANN, he found a number of new fungi, which were sent to FRIES and described by him (Novae symbolae

mycologicae, sistens fungos in peregrinis terris a botanicis Danicis nuper collectos. Upsala 1851). About 1860, when he had been appointed professor of botany, he occupied himself very much with the parasitic fungi, mostly with such of these as are found on the corn or on other cultivated plants. When "Selecta fungorum carpologia" by TULASNE BROTHERS, had been published in Paris in 1861, ØRSTED tried to follow in their footsteps by endeavouring to find the genetic relation between the ascospore stage of the Pyrenomycetes and their conidial stage among the socalled fungi imperfecti. He particulary studied a series of fungi on fallen cones of Coniferae and hereby made the important discovery that Phelonitis strobilina, which had hitherto been considered as belonging to Myxomycetes, was a Caeoma, and accordingly must be referred to Uredinales (Ørsted 63 a & b). His observations of the fungus which he called Pleosporopsis strobilorum, which, according to the description and figure must be considered Rosellinia obliquata (Fries) Wt. and which he considered as genetically related to four different "fungi imperfecti", has never been re-examined by others, and the proofs stated by him are not convincing. Much more fortunate was ØRSTED when, in 1865 he commenced making cultural experiments, with the species of Gymnosporangium on branches of Juniperus, infecting leaves of Pirus, Sorbus and Crataegus and thus finding the heteroecism of Gymnosporangium sabinae, juniperi and clavariiforme at the same time and independently of DE BARY's discovery of the heteroecism of Puccinia graminis, dispersa and coronata. More of ØRSTED's books treat chiefly the diseases of cultivated plants and their control (Ørsted 62, 63 c, 63 d, 65 c, 66 b); we must therefore consider him the closest predecessor of ROSTRUP, both as a mycologist, and as a phyto-pathologist. (Concerning Ørsted see R Brown: Biographical sketch of the late Professor Ørsted. Transact. of the Bot. Soc. of Edinburgh vol. XI 1872).

A. S. ØRSTED.
From a photo.

Concerning the Danish mycologists before ROSTRUP further biografical information may be obtained from WORM: Lexicon over lærde Mænd, N. M. PEDERSEN: Bidrag til den danske Litteraturs Historie, NYERUP & KRAFT: Forfatterlexicon, ERSLEV: do., EUG. WARMING: Den danske botaniske Litteratur, Bot. Tids. vol. XII and BAY: Tillæg til samme vol. XVII, BRICKA: Biografisk Lexicon etc.

PHYTOPATHOLOGY IN DENMARK BEFORE ROSTRUP.

It is necessary to premise that by phytopathology in this connection I shall restrict this word to comprise the attack of the fungi on plants, this being the part of phytopathology with which ROSTRUP chiefly dealt; on account of circumstances he had not the opportunity of dealing so much with the noxious animals etc.

From the very outset phytopathology — as is still the case — was, to a much greater extent than mycology connected with the interest of practical life, though each has several common relations with the other; at first phytopathology related to agriculture, and the first Danish book on phytopathology was written by FABRICIUS who, from 1770 to 1775, was Professor oeconomiae of the University of Copenhagen i. e. he had to lecture on political and agricultural economy etc.

J. C. FABRICIUS.
From an engraving.

JOHAN CHRISTIAN FABRICIUS was born at Tønder in 1745 and died in Kiel on March 3. 1808. In fact he was neither an economist nor a pathologist but chiefly an entomologist. His works to this effect were fundamental to that science ("Systema entomologiae" Kbh. 1775 and several others) but in spite of this we cannot but admire his "Forsøg til en Plantepatologi" (Essay of a Phytopathology) as a work marvellous in that age; from its whole scheme and all its details it is to be seen that FABRICIUS was an ingenious observer of nature, in possession of great observing power and correct understanding of his observations. He had studied with LINNÉ at Upsala from 1762 to 1764 at the same time as his friend JOHAN ZOËGA; afterwards he had travelled for five years almost all over Europe, visiting London, Paris etc. and in this manner acquiring all the knowledge of his age on the subjects in which he was chiefly interested.

Although a pupil of LINNÉ he protests against the thesis set forth by his master (in Mundus invisibilis) that smutted corn when macerated in water was transformed into small worms. He has the right understanding of the parasitic fungi being independent plants, and he will not assent to the opinion of GLEDITSCH, that the disease of the crop in the fields should be due to unripe grains and the like; he sets forth such sensible objections as that it is his experience that grains from a clean field will give a clean crop even if there be unripe grains among them and that Secale will never be smutted. Nor will

he admit that mildew on Humulus is caused by night-frost or fog; "For, if so," says he, "why should not all the plants next to the hop be affected by mildew at the same time?" The chapters of his book treating of the damaging effect of frost, cancer, noxious insects, wounds and their treatment are excellent, and it is only to be regretted that his work should so quickly have been forgotten. I never saw it quoted by any of his successors, and the superstition advocated by GLEDITSCH and others, and fought by FABRICIUS, soon again predominated and continued to rule almost up to the time of ROSTRUP. The well-intended attempts of FABRICIUS to instruct the farmers of the true causes of the diseases of the plants were premature, the number of freeholders was too small at that time, all fields belonging to a village were cooperatively cultivated, there was too little interest in increasing the yield, and it was not until the complete change of the social state at the end of the 18. century that phytopathology commenced to be of importance to the farmers.

For this reason the same OEDER, who has been of so great significance to mycological investigation in Denmark by giving the impulse to the publication of the "FLORA DANICA" also — if not quite so direct — became of significance to the phytopathology of this country by his skilful agitation for the emancipation of the peasants.

For as, in 1788, BERNSTORFF, SCHIMMELMANN and other patriots had succeeded in carrying out the plan for which OEDER had worked so ardently, to emancipate the peasants from villenage and abolish the joint cultivation of the fields, an interest was aroused among the farmers to increase the yield of the fields, and it was a matter of course that this should induce several farmers to deal with the diseases which decreased the yield of the cornfields.

In the agricultural periodicals of that time: "Nye landøkonomiske Tidender", "Kgl. Landhusholdnings Selskabs Skrifter" and "Olufsens oekonomiske Annaler" we therefore find many articles by clergymen (who were at that time also always farmers), schoolmasters and common farmers on smutted corn and other conspicuous diseases. Then there was much superstition as to the causes of the diseases of the plants, and there was no understanding whatever of the significance of parasitic fungi to the diseases of the plants. For instance we find that ESAIAS FLEISCHER in his "Agerdyrkningskatekismus" (Agricultural Catechism) writes: "The cause of smut is certainly no other than unripe grains," and that GREGERS OTTO BEGTRUP (born 1769, died 1841; at the beginning of the 19. century professor of agricultural economy and one of the most experienced men in agriculture) mentions the different liquids for the steeping of grain (1800 [306]) recommending farmers to use them as "they are useful to the grain especially to the wheat", but the work

he supposes them to do is to make the grain germinate better. Smut in the wheat he mentions in another place (1800 [308]) considering it to be a disease caused by a bad fecundation. During his journey in England he had often noticed that hedges of barberry caused damage to the cereals: "as far as the shadow of barberry reaches the wheat is sterile" (p. 312), and he says that he has observed the same in Seeland at Baron Løwenskjold's at Mineslyst, but he supposes it to be poisonous vapours given off from barberry either from its roots or its blossoms.

The practical agriculturists who had a simpler view of things might sometimes have a more correct apprehension of them than the more learned people who were to be their guides. We see for instance that Frantz Wilhelm Troyel, inspector of the royal estate Anneberggaard in Odsherred (b. 1746, d. 1819) in a short article (1791) on Sclerotia (Sclerotinia libertiana) which he had noticed would appear in the receptacle of Helianthus annuus describes them as "plantae parasiticae" comparing them to Sclerotium clavus; and, moreover, he calls Sclerotia and Ustilago "Fungi". These views were, however, so contrary to the general opinion that P. C. Abildgaard (b. 1740, d. 1801, a skilful veterinarian, founder of the Vet. College and the friend of M. Vahl) as the editor of "Naturhistorieselskabets Skrivter" in which Troyel's article had appeared, thought himself obliged to contradict him and to add a few instructive remarks (1791) in order to warn the readers against the belief that the said Sclerotia should be fungi; he writes that they had better be considered morbid transformations of plants which had happened to grow in too damp a place.

The first to make phytopatological experiments in Denmark was Caspar Schade (b. Aug. 30. 1754, died April 3. 1828, rector of Mors from 1787 to 1826), famous for his splendid description of the customs and nature in the Isle of Mors (Schade 1811). In this book, page 276, he relates how he has laid out a number of small lots for experiments along a hedge of barberry, and sowed Secale, Triticum, Hordeum and Avena sativa & orientalis in them; he watched them closely, noting when they appeared, when they were affected by rust, and the severity of the attack on the different cereals (K. H. 04).

Oluf Christian Olufsen, the editor of "Olufsens oeconomiske Annaler", professor of Political Economy of the University of Copenhagen, and inspector of the newly-established Classen Agricultural College at Næsgaard (b. at Viborg 1764, d. 1827; biography by Joh. Steenstrup in "Fra Fortid og Nutid" 1892, see also A. la Cour: "Den classenske Agerbrugsskole paa Næsgaard 1799—1899", c. icon. Copenhagen 1899) wrote about the different bushes and trees which ought to be used for fences round the fields, a question that had become

very actual on account of the before-mentioned abolition of the joint cultivation of the fields. He also mentions barberry, stating (1804), like Begtrup, that in England it has been proved that a strange antipathy between barberry and the cereals exists. This observation was noticed by Dean Heiberg, and in a succeeding number of the "Oeconomiske Annaler" (1805) he recounts how his fields at Kirkesaaby near Holbæk, in 1795, were divided into lots surrounded by earthen walls on which various fencing plants were planted; the fields, however, next to a wall with 300 barberry bushes had been spoiled every year, while the cereals of the fields surrounded by the other fences had been a success.

With this the famous "Barberry War" began which lasted for 30 years, setting in motion several pens in the newspapers and the agricultural economical magazines; the following men may for instance be mentioned: the clergymen Skovboe, Hyphoff, Heiberg, Junge, Rønne, Assens and Hansen, the schoolmasters Schøler and Hans Holck, the professors Begtrup and Hornemann, and the bailiffs Lemvigh and Tommesen; it has been described in detail by P. Nielsen (74 b & 77 b [34 45]) and quoted by Eriksson (E & H 96 [16]) and by Klebahn (04 [215]).

The principal person in the Barberry War was Niels Pedersen Schøler, born 1772 at Øsby near Haderslev, pupil of the Blaagaard Training School 1794—1797, schoolmaster and sexton at Hammel in Jutland from 1799 until he died on May 21. 1851. (For his biography see Andreas Madsen in "Ugeskrift f. Landmænd" 1904, Nr. 12—14). He was an interested phytopathologist, who dealt with the diseases of the cereals, examining them by means of the microscope, trying several remedies against them, and making comparative cultivating experiments with them which must needs astonish us at the present time, by the correct manner in which they were made and the completely correct conclusions he drew from them, and we must highly regret that the indefatigable and unselfish endeavours he made to make his useful observations known, were so little appreciated and remained misunderstood by most people.

He planted barberry in his garden and grew oats and rye around it, and for several years (1813—1817) he planted larger and smaller barberry bushes in the middle of cornfields to prove how they caused damage to the surrounding corn; he invited through the newspapers everybody to see the experiments. In 1816 Schøler made the experiment of carrying branches of Berberis vulgaris, severely infected by aecidies and well wrapped up, into a rye-field wet with dew; there he touched the dewy leaves of the rye with the leaves of barberry and marked the infected plants; only five days later rust appeared

on the marked leaves while all the rest of the field remained free from rust.

This is the first real experiment in cultivation made in order to prove the genetic relation of Aecidium berberidis to Puccinia graminis; it was — seen with the eyes of the present time — far better planned than Professor HORNEMANN's attempt to disprove the theories of SCHØLER. HORNEMANN (1816) cut holes in the leaves of grass to bring the aecidiospores into them; HORNEMANN's experiment had a negative result as was to be expected, but we must be surprised that his few negative results were able to counterbalance the numerous positive ones of SCHØLER; in fact the matter was temporarily settled by this. In 1817 SCHØLER made several attempts to induce the Kgl. Landhus=holdnings=Selskab (Royal Agricultural Society) to resume the matter, but in vain. As late as in 1863 in his book on diseases of the plants ØRSTED (63 c [114]) wrote that the barberry bush was innocent, an asser=tion he, however, had to repeal only three years later (Ørsted 66).

SCHØLER, however, not only dealt with Puccinia graminis he also made experiments with the steeping of grain, wrote on Claviceps, Ustilago etc. Even if he did not succeed in making his efforts appre=ciated by the Royal Agricultural Society or the leading botanists, he had the satisfaction of seeing all the farmers at Hammel and in its neighbourhood, destroy their barberry; he even enjoyed the triumph that all the peasants of Hammel on the day after the death of his most obstinate antagonist, bailiff TOMMESEN (1839) stormed his garden and rooted up all the barberry bushes which TOMMESEN in sheer defiance had planted there (Madsen 04).

The theory that all parasitic fungi of the plants was a morbid rash, caused by the quality of the soil, damp weather, deficient fecundation etc., remained rooted a very long time in Denmark as also in other countries. As late as in 1833 we find it maintained by FRANZ UNGER in his book "Die Exantheme der Pflanzen", in 1839 by A. F. WIEG=MANN in "Die Krankheiten und krankhaften Misbildungen der Ge=wächse", even ELIAS FRIES was rather reserved on this question, and would not consider Uredinales genuine fungi, and, in 1844, when the Swedish potato=fields were spoiled by Phytophtora infestans, he de=fended this fungus with all his might, considering it only a secondary phenomenon.

But even if those theories did great harm because, as long as they predominated, they prevented people from making all efforts to find the right preventives against the diseases of the plants, practical agri=culturists continued to send in smaller accounts which, without attemp=ting to explain the causes, only stated the diseases of the cereals and the preventives which had been tried against them.

Smut on cereals has always highly interested the farmers, and, no doubt, this is the first disease they have noticed. To my knowledge FABRICIUS (1774), TROYEL (1791) and HØEGH (1797) are the first to mention Tilletia caries, but they record it as an old and well-known disease of Triticum.

HANS JØRGEN CHRISTIAN HØEGH, rector of Gentofte, but at the same time an interested agriculturist and author of a book of more than five hundred pages "Vejledning for en Bonde, som har faaet sine Jorder udskiftede af Fællesskab" (Guide for a peasant who has had his fields allotted from joint cultivation) which was published at the expense of the Royal Agricultural Society, has in this work (97 [118]) described the experiments he made with limed and unlimed seeds of wheat. He also made excellent observations on Urocystis occulta, which deserve to be quoted as it is no doubt the first time we find an account of an observation which states that this disease may be transferred by the grain. He writes (Høegh 97 [118]): "Rye may be infected by smut at the base of the straw and yet have good corn in the ear; the smut is only felt during the thrashing when the black dust from the straw is set free and covers the flail and the face of the thrasher; it is not advisable to sow such rye; it will be diseased next year." Also peasants such as ABRAHAM OLSEN (1791) and NIELS REMMER, a smallholder of Terp in the parish of Skivholme in Jutland (1818), write on smut on wheat and the proper treatment of the grain.

Among the agriculturists of the beginning of the century who dealt with the diseases of the agricultural plants because they understood their economical significance, SØREN AUGUST FJELSTRUP also ought to be mentioned. He was one of the most skilful farmers of his age, and author of many articles in periodicals on the different agricultural questions. He was born at Hørsholm Sept. 2. 1775, began to study, but deserted his studies to become a farmer, and in 1815 bought the farm Sindinggaard in the west of Jutland; he was a member of the Jutland Consultative Chamber 1836—46; he died Sept. 5. 1859. His experiments on the treating of wheat (Fjelstrup 1817) were very well established, lots of treated and untreated corn being laid out next to each other to control the effect; he was also (1844) very interested in Phytophtora infestans when first it began to appear and tried several remedies against this pest.

What has appeared in Denmark concerning phytopathology from the cessation of the Barberry War to the first appearance of ROSTRUP is of very little importance. Most of what was written was merely translation from foreign works; S. DREJER (1839) translated WIEGMANN's book, and P. HEIBERG (1862) translated DE BARY's book on Phytophtora infestans. ØRSTED's papers on phytopathological questions

contain very little that is original. His excellent discoveries concerning rust have been mentioned in the preceding chapter.

JOHAN LANGE (57 & 79) wrote some short papers on diseases of plants while a teacher of botany at the Roy. Vet. and Agric. College, but they are of no great value.

So it is no exaggeration to call E. ROSTRUP the first phytopathologist of Denmark. In possession of great diligence and working power he quickly made himself familiar with the really good material that, prior to himself, had appeared in foreign countries in connection with these subjects. His sound judgment enabled him to distinguish between the valuable information and all the superstition which had predominated before his own time. Simultaneously with ROSTRUP, and basing their knowledge on that of his, P. NIELSEN and J. L. JENSEN soon made themselves conspicuous by ingenious and useful discoveries which will be mentioned later. (On the history of phytopathology in Denmark see R. 88 e & 02 a [1–9], P. N. 77 b, E. + H. 96 [7–24], F. K. R. 04 b, Madsen 04, K. H. 04).

THE ASSISTANTS OF E. ROSTRUP IN THE MYCOLOGICAL INVESTIGATION OF DENMARK.

A man has rarely or never received so little information from others as ROSTRUP and has made so ample distribution to all around him as he has. ROSTRUP started as an authodidact, studying quite on his own accord and under difficult circumstances; but as soon as he had made himself familiar with the subject he passed his knowledge on to everybody. Consequently it is very rare that a man should gather so many faithful friends and colleagues around him as was the case with ROSTRUP. They all sent in fungi for his herbarium, considering it an honour to be allowed to report their observations to him, as his herbarium and the large collection of letters, left by him, witness. Therefore his mycological reports in the "Botanisk Tidsskrift" were more likely to be reports of all that has been found in Denmark, than reports of what has been found by himself, although the latter always formed the greater part.

It would be unjust, if the names of all ROSTRUP's intimate friends and his fellow-mycologists were not mentioned in the present work; the scanty biographic information added to their names only appear in order to discern them from others who might possibly bear the same names; most of them have also otherwise made themselves

known, and their names may be found in encyclopædias, biographic dictionaries etc.

Baagøe. BAAGØE, JOHANNES SCHØNBERG, born December 5. 1838 near Kallundborg, Pharmaceutic examination 1862, apothecary in Næstved 1876—1890, died Decbr. 13. 1905 (see Bot. Tids. vol. 27 p. LIV—LVII c. icon). Very interested botanist who also collected a number of fungi, partly in the neighbourhood of Silkeborg while being chief assistant at the dispensary at Silkeborg, partly in the neighbourhood of Næstved.

Fr. Bang. BANG, FREDERIK ANDREAS CHRISTIAN, born July 28. 1821 at Stendalsgaard near Viborg. Son of verderer JENS BANG who laid out the royal plantations in the "Alhede" (Jutland Moor) 1815—1862. Graduated as a forester 1842. 1876 verderer of the Tisvilde—Frederiksværk district.

J. P. Bang. BANG, JENS POUL FREDERIK, born Feb. 25. 1854 at Gjøddinggaard near Vejle. Son of the verderer FR. BANG, Arresødal, graduated as a forester 1878, one of ROSTRUP's very first pupils; in May 1882 he visited ROSTRUP at Skaarup and accompanied him during his excursions in the woods. Later on chief-planter of the State-Plantations in the Dunes.

A. B. BENZON, ALFRED, born April 12. 1823 in Stubbekøbing. Pharmaceutical examination 1845. Owner of the "Svane" dispensary in Copenhagen from 1850 till he died Decbr. 19. 1884. (Obituary see "Meddelelser fra bot. For." I [129]). Interested botanist and ardent collector, not only of phanerogames but also of their parasites. Belonging to the very first of ROSTRUP's botanical friends; member of the club "Cellen" (about 1850—1857).

Bergstedt. BERGSTEDT, N. H., born Juni 27. 1835, school-master at Bodilsker in the Isle of Bornholm. Author of "Bornholms Flora" in Bot. Tids. vol. 13. Also found a number of fungi in Bornholm f. inst. Tilletia controversa.

Boas. BOAS, JOHAN ERIK VESTI, born July 2. 1855; M. A. 1878, Ph. D. 1881, reader 1885, lecturer 1892, professor of Zoology at the Royal Veterinary & Agricultural College. Chief Consulting Zoological Pathologist to the Danish Government 1890. He often brought ROSTRUP fungi he had found on old bones, on caterpillars etc.

Bonnevie. BONNEVIE, FREDERIK CARL GUTFELD, born Novbr. 11. 1831 at the rectory of Vallekilde. Graduated as a forester 1857. Verderer of the 2. District of Frederiksborg 1877.

Breitung, Amandus, priest of the St. Andrew College at Ordrup; has made several valuable discoveries of fungi in the neigbourhood (f. inst. Bovistella echinella). Breitung.

Branth, Jacob Severin Deichmann, born Decbr. 7. 1831 in Nykøbing J. B. D. 1857, rector of Elling & Tolne near Frederikshavn 1871—80, of Ousted & Taaning near Skanderborg since 1880. Well-known lichenist; published together with E. Rostrup "Lichenes Daniae", and often sent Rostrup lichens, attacked by parasitic fungi. D. B.

Bruun, Alfred Ludvig, born Aug. 16. 1858 in Hjørring. Passed horticultural examination 1880. Assistent at the Veterinary & Agricultural College, later on gardener there; from 1883 lecturer and professor; has often found fungi in the college-garden. A. Bruun.

Bruun, Svend, born July 14. 1872 at Bernstorff. Passed horticultural examination 1893. From 1900 florist and nursery-man at Brøndbyvester. 1909 president of the General Danish Gardener's Society. Has often occupied himself with the fungi of the horticultural plants, was f. inst. the first to discover Pucc. chrysanthemi in this country (see the list of lit.). S. Bruun.

Bøgh, Georg Julius, born Decbr. 13. 1821 at Herfølge. Started a nursery in Horsens 1854, did much to improve the home trading in seed and the cultivating of fruit-trees in Jutland. Member of the board of the "Society for the Improving of Cultivated Plants"; died February 19. 1904. Bøgh.

Børgesen, Frederik C. E., born Jan. 1. 1866 in Copenhagen, M. Sc. 1891, Ph. D. 1904, from 1904 librarian of the Botanical Library. Børgesen.

Christensen Hygum, Jens J., born April 16. 1847 at Hygum. One of Rostrup's very first pupils at the Skaarup Training School, where he passed his examination in 1868. At first teacher of the Popular High-School at Mørke, 1872 till his death 1882 teacher at Ugelbølle near Rønde. Very interested collector of fungi especially in Djursland. Christensen Hygum

Dalgas, Christian, born May 5. in Aarhus. Graduated as a forester 1885; verderer to the "Hedeselskabet" (Moor-cultivating Company), lives in the Herning district. Son of E. Dalgas; like his father he is very interested in fungi, growing on the coniferous trees. C. Dalgas.

Dalgas Enrico Mylius, born July 16. 1828 in Naples, died April 16. 1894. Lieutenant-colonel, fellow-founder of the "Hedeselskabet" (The Danish Moor-cultivating Company) March 28. 1866. Was one of E. Dalgas.

the first to realize the use to our plantations of ROSTRUP's studies of the parasitical fungi of the forest trees, and was very active in establishing the office of Chief Pathologist which ROSTRUP obtained in 1884.

Didrichsen. DIDRICHSEN, DIDRIK FERDINAND, born June 3. 1814 in Copenhagen. 1858 lecturer, 1875 professor of botany at the University till 1885. Died March 20. 1887 (see Medd. f. Bot. For. II [45]). Has often collected fungi in the neighbourhood of Copenhagen.

Fabricius. FABRICIUS, WILHELM, born in Nykøbing S. Septbr. 12. 1837. Graduated as a forester 1861. Verderer of the Palsgaard district 1881—1910.

Feddersen. FEDDERSEN, ARTHUR FREDERIK, born Febr. 16. 1835 in Copenhagen. Examination of practical physics at the Polytechnic College 1856. Collected fungi in the neighbourhood of Viborg while engaged at the college of that town (1861—1883). Died 1906.

C. F. FERDINANDSEN, CARL CHR. FRED., born Febr. 2. 1879. M. Sc. 1909. Has collected many Danish fungi especially near Aarhus and together with Ø. Winge written several mycological pamphlets (marked F. & W.).

Erh. Frederiksen. FREDERIKSEN, CHR. ERHARD, born Jan. 7. 1843 at Fuglsang in the Isle of Lolland. Examination for agriculturists 1862. Worked very much for a rational culture of grain and sugar-beets; on account of this he communicated with ROSTRUP. Died 1903.

Fritz. FRITZ, NIELS, born June 4. 1835 in Roskilde. Verderer to the "Hedeselskabet" (Moor-cultivating Comp.) from 1869. Lived at Aalykke near Brørup Station till he, a few years ago, moved to Copenhagen. Occupied himself with entomology, and at the same time found a number of parasitic fungi on coniferous trees of the moor-plantations.

Gad. GAD, CARL AUGUST, born May 5. 1834 in Vordingborg, died in Viborg Jan. 1. 1895. B. M. 1860. Chief-physician at the Lunatic Asylum of Viborg 1876. Has collected a number of parasitic fungi in the neighbourhood of Viborg, was in possession of a microscope & literatur, but generally sent in duplicates for ROSTRUP's herbarium, also made experiments of cultivation with the parasitic fungi (Gymnosporangium). Belonged to the botanical friends who, in connection with ROSTRUP, founded the little debating club called "Cellen" about 1850.

Gelert. GELERT, OTTO, born Novbr. 11. 1862 at Nybøl near Sundeved, died March 20. 1899. Pharmaceutical examination 1883. Well-known botanist, also often collected fungi. (See Bot. Tids. vol. 23 [323]).

Gram, Hans, born in Ruds-Vedby Aug. 5. 1859. Horticultural exam. 1882. Owner of a nursery near Sorø. Interested pomologist. Gram.

Grønlund, Carl Christian Howitz, born July 14. 1825 in Vordingborg. B. D. 1850. Teacher of botany at schools in Copenhagen till 1879 when he was appointed manager of the Physiological Laboratory of Ny Carlsberg. Collected a number of fungi and published some popular pamphlets on fermentation etc. (see lit.). E. Rostrup wrote his biography for Bricka's Dictionary (see also Bot. Tids. vol. 24 p. XXX). Grønlund.

Hansen, Emil Christian, born May 8. 1842 in Ribe. For some time tutor at the Holsteinborg castle, passed examination for board-school-teachers in 1864 and was acquainted with P. Nielsen, later on school-master at Ørslev. Ph. D. 1879, Professor 1892. Made researches on the Danish manure fungi during the years 1874—76, and gained the gold-medal of the University of Copenhagen for a paper entitled "Fungi fimicoli danici", was appointed director of the Carlsberg Physiological Laboratory, and in this capacity he published a great many papers on Saccharomycetes and similar subjects. His large collection of Fungi fimicoli danici is found in the Botanical Museum. E. Rostrup wrote his biography for Bricka's Dictionary. Karsten has named the Polyporee-family Hansenia (Karsten 1880) after him. E. C. H.

E. C. Hansen.
From a photo.

Hansen, Kristian Erhard Mørk, born April 1. 1861 near Aabenraa. Graduated as a forester 1883. Verderer at Ravnholt after his father-in-law I. F. Wedel. Mørk Hansen.

Hansen, Kristian, born at Tarm Novb. 2. 1858. Agricultural exam. 1888. 1890 director of the "Experimental Station of the Government" at Lyngby. 1893 Appointed by the state as adviser in plantculture. Most interested in botany and cultivation of plants, has sent to Rostrup numerous fungi — chiefly collected at Lyngby — and has also in several other ways co-operated with Rostrup. K. H.

Hauch, Alfred Ludvig, born March 3. 1885 in Sorø, son of Joh. Carsten Hauch, the poet; graduated as a foresters 1870. Verderer at Bregentved. Hauch.

Jac. Hartz. HARTZ, JACOB MAGNUS LUDVIG, born 1871 in Randers. Pharmaceutic exam. 1896. Well-known florist who has also collected many exquisite fungi on his numerous excursions to all parts of the country.

Nic. Hartz. HARTZ, NICOLAI EG KRUUSE, born in Randers August 23. 1867. Ph. D. 1909. Well known palaeophytologist. Brother of JAC. HARTZ.

Helms. HELMS, JOHANNES, born Jan. 29. 1865 in Horsens, son of JAC. HELMS, apothecary. Verderer at the Tisvilde—Frederiksværk district, later on at Feldborggaard and Silkeborg. Has studied several parasitic fungi on forest trees especially on Betula.

Helweg. HELWEG, LEOPOLD HANS ANDREAS, born in Copenhagen March 2. 1851. Horticultural exam. 1877. As experimenting manager to the Society for the Improvement of Cultivated Plants as well as editor of the "Gartnertidende" (1886—1901) he comunicated with ROSTRUP and often brought him diseased cultivated plants.

Hofman (Bang). HOFMAN (BANG), NIELS ERIK, born at Hofmansgave July 18. 1803, son of the botanist N. HOFMAN BANG. A faithful friend of ROSTRUP's to whom he sent a number of diseased plants from his fields, his garden & wood. Owner of the family-estate of Hofmansgave 1855 till he died in 1886. (Orbituary see Medd. fra Bot. For. II [7]).

C. P. Jacobsen. JACOBSEN, CHRISTIAN PETER, born Aug. 31. 1841 near Aabenraa. Passed exam. for board-school teachers. Edited together with J. L. JENSEN "Landmandsblade" (Farmer's Magasine) 1868—1881, to which P. NIELSEN and ROSTRUP often contributed with pathological articles. Member of The Society for the Improvement of Cultivated Plants. Established in 1872 the "Markfrøkontoret" (The Grain Office) in company with J. L. Jensen and Wendt. Co-operated with ROSTRUP; made many experiments with clover etc. with which ROSTRUP partly assisted him and partly profited of; he had an open eye to the significance of the diseases of plants to the cultivated plants of the fields. ROSTRUP has written his biography in "Meddelelser fra Markfrøkontoret" København 1896 c. icon.

H. Jacobsen. JACOBSEN, HANS, born March 1. 1815 at Mølby near Sønderborg, died July 25. 1891. Nursery-man at the Hæsede nursery near Næstved (see Med. fra Bot. For. II [45] & II [208]).

J. P. J. JACOBSEN, JENS PETER, born April 7. 1847 in Thisted, died 1885. Studied botany 1867—74 (Desmidiaceae). Besides being a poet he was

an ardent botanist with great observing power. In summer 1870, as he had got a fellowship from the Botanical Society to study the Islands of Læsø and Anholt, he collected a number of parasitic fungi (see Bot. Tids. 1879).

JENSEN, CHR. E. OTTERSTRØM, born at Angel 1859. Pharmaceutic exam. 1882, first assistent, later on (1910) apothecary at Hvalsø. Well-known bryologist, also supplied ROSTRUP's herbarium with several parasitic fungi (f. inst. Tilletia sphagni). C. Jensen.

JENSEN, JENS LUDVIG, born Jan. 9. 1836 near Odder. Passed exam. for board-school teachers 1855, for a period school-master, later on editor of the "Landmandsblade" and founder of the "Markfrøkontoret" (Grain Office) both together with the above mentioned C. P. JACOBSEN. Occupied himself very much with blight on potatoes, smut on the cereals etc., and found new and good remedies for practical prevention of these diseases; made new experiments in order to get at better knowledge of the diseases, and was for years closely connected with ROSTRUP, died August 10. 1904 (see list of lit.). J.L. Jensen.

J. L. JENSEN.
From a photo.

JEPPESEN, JENS, born July 30. 1855 at Fodby near Næstved. Passed exam. for board-school teachers at the Gedved Training School near Horsens 1877, teacher of this Training School from 1877 to 1894. Examined the flora (phanerogams, lichens and fungi, but particularly musci) in the neighbourhood of Horsens, and has sent many valuable fungi to ROSTRUP's herbarium as also to the Botanical Museum. Since he was appointed teacher at the governmental Training School of Ranum, he has also collected a number of fungi in the neighbourhood of Ranum and Løgstør. Jeppesen.

JEPPESEN, JENS, born March 8. 1850 at Ellerup in Funen. From 1877 he has studied the flora in the neighbourhood of Vordingborg, and Vejle, and from 1884 at Staby near Ulfborg, where he has lived since then. Although the discoveries of fungi of the just named two gentlemen are indicated JEPPESEN it is easy to conclude from the localities who of them has found the fungus in question. Jeppesen.

JOHANNSEN, WILHELM LUDVIG, born Febr. 3. 1857 in Copenhagen. Pharmaceutic exam. 1880. At first professor of physiology of plants W. Johannsen.

at the Royal Veterinary and Agricultural College 1892, from 1905 professor of physiology of plants at the University of Copenhagen. Member of the "Videnskabernes Selskab" (Society of Science) 1898. Was closely connected with ROSTRUP both on account of the botanical studies and on account of intimate friendship. Wrote the biography of ROSTRUP in the "Ugeskrift for Landmænd" (The Farmer's Weekly) 1891. Has found numerous interesting fungi, and also often joined the little, private excursions, arranged by ROSTRUP together with two or three other botanists.

J. P. Johansen. JOHANSEN, J. P. For several years brewer in Aalborg. Is now living in "Villa Sofiero" near Hillerød. Collected especially about the year 1880 a number of parasitic fungi in the neigbourhood of Aalborg (see list of lit.).

Kjærskou. KJÆRSKOU, HJALMAR FR. CHR., born in Copenhagen Aug. 6. 1835. Master of Botany 1862. From 1861 assistent of the Botanical Museum, keeper of the Museum until he died in 1900. (See Bot. Tids. vol. 23 [329—333]).

Kløcker. KLØCKER, ALBERT, born in Copenhagen 1862. Pharmaceutic exam. 1888, B. A. For several years asssistent of EMIL CHR. HANSEN; when H. died associate director of the Carlsberg Laboratory. Occupied himself very much with Saccharomycetes, Penicillium etc. and their classification (see list of lit.).

A. Lge. LANGE, AXEL, born Decbr. 4. 1871 at Frederiksberg. Son of the professor JOHAN LANGE. Horticultural exam. 1893. From 1902 gardener of the Botaniçal Garden of Copenhagen. Often brought valuable parasitical fungi to ROSTRUP.

Jak. Lge. LANGE, JAKOB EMANUEL, born in Flensborg April 2. 1864. Nephew of professor JOHAN LANGE. Horticultural exam. 1884. From 1888 teacher of botany etc. of the Agricultural College of Dalum. Has collected and made a close study of a great many fungi especially Agaricaceae, but also parasitic fungi, in the neighbourhood of Odense.

Joh. Lge. LANGE, JOHAN MARTIN CHRISTIAN, born March 20. 1818 at Ødstedgaard near Fredericia. First Lecturer of botany at the Royal Veterinary & Agricultural College. 1877 Ph. D. of the University of Upsala. Died 1898. (See Bot. Tids. vol. 22 [212]). An intimate friend of ROSTRUP; both greatly interested in all branches of the Danish flora.

C. Larsen. LARSEN, CHRISTIAN, born 1836. Gardener of the Royal Gardens of Fredensborg from April 1. 1864 to May 1. 1911. Has often sent dis-

eased plants from the Royal Gardens at Fredensborg to Rostrup. (See Gartner Tidende 1911 p. 93).

Larsen, Jørgen W., born July 10. 1851 at St. Jørgensbjerg. Dried out the lake "Gaardbosø" 1881—84 and built the mansion "Gaardbogaard". Interested agriculturist who very often sent diseased plants of the fields to Rostrup. For several years member of the botanical society and famous for the great hospitality with which he always receives botanists. Jørgen Larsen.

Larsen, Poul. Pupil of Rostrup at the Training School of Skaarup from 1881—1884. Later on principal of the College of Kjellerup, at present schoolmaster in Aarhus. Has made many excellent contributions to the knowledge of the Jutland flora of fungi which he has partly published (P. L. 08) and partly been kind enough to sent information in writing to me of the same. P. L.

Larsen, Sofus, born Septbr. 10. 1855 in Copenhagen, head librarian at the University of Copenhagen 1909. Ph. D. 1889. Interested botanist. S. Larsen.

Leth, Rasmus Balslev, born Jan. 1. 1839 at the rectory of Lillehedinge. Graduated as a forester 1861. Verderer at the Sorø Academy II district 1873. 1889 chief-verderer. Has found a number of parasitic fungi from trees in the neighbourhood of Sorø. R. B. Leth.

Leth, Laurits Theodor Emil, born March 26. 1843 at Særslev near Holbæk, pupil of Rostrup at Skaarup; from 1869 to 85 teacher at Sahl near Rødkærsbro. Has always collected a number of flowers and fungi. Since 1885 he assisted Rostrup in mounting his herbarium plants. Th. Leth.

Lind, Jens, born March 1. 1874 in Nykøbing in the Isle of Mors. Pharmaceutic exam. 1896. I have particularly collected fungi in Jutland. Lind.

Lyman, Frederik Valentin, born in Nakskov Aug. 8. 1836. Graduated as a forester 1861. 1866 verderer of the forests of Moltkenborg and Mullerup near Glorup. Lived in Glorup. Son of N. C. V. Lyman, merchant in Nakskov and brother of Rostrup's mother. He ardently collected fungi in the said forests and sent them to his cousin. Lyman.

Madsen, Andreas Lucian Anton, born in Copenhagen 1863. Horticultural exam. 1892. For some years temporary assistant of Rostrup at the Agricultural College. Has written many scattered articles on the history of horticultural plants etc., also on the parasitical fungi of horticultural plants. In the "Dansk Ornithologisk Tidsskrift" (Da- A. Madsen.

nish Ornithological Magazine) 1911 [134–147] he wrote about E. ROSTRUP as ornithologist, and is at present writing a copious biography of E. ROSTRUP.

Mariboe. MARIBOE, CARL, born March 10. 1859 in Copenhagen. Horticultural exam. 1880. Both as the owner of a nursery in Fredericia (1884—1900) and as the editor of the "Haven" (The Garden) he has sent in many diseased cultivated plants to be determined by ROSTRUP.

H. M. MORTENSEN, HANS, born April 28. 1825 at Hesnæs in the Isle of Falster. Passed examination at the Jonstrup Training School 1845. Studied with H. C. ØRSTED at the Polytechnic College, 1849—53 teacher of the Agricultural College at Næsgaard. 1856 teacher of the Jonstrup Training School. Died Novbr. 12. 1908. (See Bot. Tids. vol. 29 [337]). Ardent collector. Has also written botanical articles. Writer of occasional poems (f. inst. a fine memorial poem on ELIAS FRIIS in Bot. Tid. 3 R. 3 vol. p. 25). Has collected numerous fungi which have later on been exchanged with others and added to herbariums in all Scandinavia.

M L. M. MORTENSEN, MORTEN LARSEN, born Febr. 25. 1881 at Baaring near Nr. Aaby, Funen. M. Sc. 1906. Exam. for Agriculturists 04. Died Decbr. 3. 1911. Adviser of diseases of fungi to the "Samvirkende Landboforeninger" (The co-operating Agricultural Associations) from 1907. The reports issued by him every month concerning attacks of fungi on the cultivated plants of the farm, contain much information as to the appearance of parasitic fungi which are of great value also in mycological respect. Has also collected a great many fungi in Vendsyssel (Hornsherred) and has in different ways assisted me with the present work.

M. L. MORTENSEN.
From a photo from 1907.

Mundt. MUNDT, CHRISTOFFER, born 1884, Graduate of medicine 1869. Physician in Copenhagen. Has occupied himself very much with eatable fungi and published several papers on them. Also found a number of Micromycetes.

Muus. MUUS, SVEND, born April 6. 1870. Graduate of Law 1900. Solicitor to the Superior Court of Copenhagen 1903. Has collected fungi especially in the neigbourhood of Copenhagen.

Müller, Peter Erasmus, born Octbr. 28. 1840 in Copenhagen. Exam. for agriculturists 1861, exam. for foresters 1867. Ph. D. 1871, chief-verderer, member of the "Videnskabernes Selskab" (The Society of Science). Was one of the first to realize the great importance which the phyto-pathological studies of Rostrup might have to practical forestry. Has always sent many diseased plants to be examined by Rostrup, and it was he who induced Rostrup to write his Summaries of Diseases of the Forest Trees (1877 b, 1880 a, 1883 d) which also caused the Minister of Finance to rise Rostrup as an expert to study the diseases in different forest districts. Rostrup and Müller corresponded very frequently. The first letter from P. E. Müller to Rostrup is dated June 22. 1876. P.E.Müller.

Møller-Holst, Erhard, born July 22. 1825 in Nyborg. Chief-editor of the "Ugeskrift for Landmænd" (The Farmer's Weekly) and editor of The Agricultural Dictionary (1876—83); founder of "Dansk Frø-kontrolstation" (Danish Seed-Inspecting Office) 1871, the first outset of Danish Seed-Inspection, and of the Society for the Improvement of cultivated Plants by which he entered into close connection with P. Nielsen, Rostrup etc. Made many excursions to the neigbouring countries in order to study agricultural economy. Died Decbr. 22. 1889 (Orbituary see Medd. fra Bot. For. II [188]). Møller-Holst.

Nielsen, Peter, born July 28. 1829 at Ørby in te parish of Vonsbæk. Exam. for board-school teachers at Jellinge 1857. School-master at Ørslev near Skjelskør 1859—1888. Leader of the State's experiments in plant culture 1877—1898. Consulting Agriculturist to the Danish government 1886. During the years 1870—1877 he occupied himself very much in discovering parasitic fungi; he started a rich herbarium of fungi which has been incorporated in the phytopathological collection of the Agricultural College, and he sent a great many samples to Rostrup. Made numerous experiments with cultivating of heteroecious and nonheteroecious Uredinales during the years 1870—1882 (see below sub Uredinales). His biography see: P. Andersen: Statskonsulent P. Nielsen, Odense 1907. P. N.

P. Nielsen.
From a photo.

Nyeland, Stephan Peter, born Septbr. 12. 1845 in Korsør. Horticultural exam. 1866. Interested horticulturist, founder and director of Nyeland.

the Horticultural College "Vilvorde" 1875—1905. (See Norsk Have-tidende 1893 p. 179—183).

A. Oppermann. Oppermann, Adolf, born Jan. 14. 1861 near Skjelskør. Graduated as a forester 1883. From 1883 appointed teacher of cultivation of woods to the Royal Veterinary & Agricultural College (1895 professor). Son of A. C. N. M. Oppermann verderer at Holsteinborg. Accompanied Rostrup on the excursions for students of forest matters.

L. Oppermann. Oppermann, Ludvig Henrik Ferdinand, born Septbr. 17. 1817 at Ditlevslyst. Graduated as a forester 1852. Died 1883. Son of J. C. V. Oppermann, verderer at Brahetrolleborg.

C. H. O. Ostenfeld, Carl Emil Hansen (formerly C. E. Ostenfeld-Hansen), born in Randers Aug. 3. 1873. M. Sc. 1897, Ph. D. 1906. On numerous travels in all parts of the country he has made many valuable discoveries of micromycetes (as Sorosporium montiae). I am much indebted to Dr. Ostenfeld for the kindness with which he, as keeper of the Botanical Museum, has assisted me vith the present work both by helping me to determine the hostplants and in several other respects.

Palud. Paludan, Christian Frederik, born Jan. 16. 1850 in Nebsager. Horticultural exam. 1871. Gardener of the Royal Gardens of Rosenborg 1887—1909.

C.Pedersen. Pedersen, Chr. For several years Gardener at Lerchenborg. Sent many fungi from the neigbourhood of Kallundborg (Amylocarpus & Onygena) to Rostrup. Author of many articles on horticulture.

H. Pet. Petersen, Henning Eiler, born August 22. 1877 in Glostrup. M. Sc. 1902. Is especially studying the Phycomycetes.

O. G. P. Petersen, Otto Georg, born March 26. 1847 at Tersløse near Soro. M. Sc. 1875. Ph. D. 1882. Lecturer 1893—1903. Succeeded 1893 Joh. Lange as professor of botany of the Royal Vet. & Agricult. College. Has often made excursions together with Rostrup both quite in private and as leader of the annual excursions for the students. Brother of the below-mentioned Sev. P.

Sev. P. Petersen, Severin, born May 17. 1840 at Borum in Jutland. For several years school-master at Slotsbjergby near Slagelse, is now living at Soro. Has published several popular accounts of Danish butterflies and singing birds. Has particularly studied the Danish Agaricaceae,

and has recently published a systematic account of all Danish Agaricaceae. Together with ROSTRUP he has, for several years, been the leader of the mycological excursion which is every autumn arranged by the Botanical Society and has with indefatigable zeal determined the collected Agaricaceae and arranged exhibitions of the collected material.

POULSEN, VIGGO ALBERT, born May 31. 1855 in Copenhagen. M. Sc. 1882, Ph. D. 1888, 1893 lecturer, 1902 professor of botany of the Pharmaceutical College. V. A. P.

PRYTZ, CARL VILHELM, born March 21. 1857 at the rectory of Hanherred. Graduated as a forester 1879. Succeeded P. E. MÜLLER as teacher of cultivation of forests of the Royal Vet. & Agric. College, 1892 professor; son-in-law of professor E. WARMING. Prytz.

RAVN, FREDERIK KØLPIN, born in Aalborg May 10. 1873. M. Sc. 1896. Ph. D. 1900. 1892—1905 assistent of professor ROSTRUP and after his death 1907 his successor as professor of phytopatology and adviser of the Department of Agriculture as to diseases of cultivated plants. I am highly indebted to professor F. KØLPIN RAVN because he has, in several respects, assisted me with the present work. F. K. R.

RAUNKIÆR, CHRISTEN CHRISTIANSEN, born March 29. 1860 at Raunkiærgaard near Varde. M. Sc. 1885; from 1894 employed at the Botanical Museum. 1909 lecturer of botany, from Jan. 1. 1911 professor of botany at the University of Copenhagen. Occupied himself for several years with independent examinations of Danish fungi, has published an systematic account of the Danish Myxomycetes. Raunkiær.

ROSENVINGE, JANUS LAURITS ANDREAS KOLDERUP, born Novbr. 7. 1858 in Copenhagen. M. A. 1882. Ph. D. 1888, lecturer at the University of Copenhagen 1895; lecturer of Cryptogamy of the University. Closely connected with ROSTRUP through common botanical studies as also through intimate friendship. Has written the biography of ROSTRUP in Bot. Tidsskr. vol. 28 [185—198], and has in several ways improved our knowledge of the fungi of Denmark. L. K. R.

ROSTRUP, ASTA, only daughter of E. ROSTRUP. Often accompanied him on his excursions. Has also herself collected fungi for her father. A. R.

ROSTRUP, OVE GEORG FREDERIK, born Febr. 29. 1864 at Skaarup. Only son of E. ROSTRUP, married the well-known Lady-Entomologist O. R.

Mrs. Sofie Rostrup. M. A. 1890. Very clever mycologist who has found many notable fungi for his fathers herbarium already while a school=boy at Herlufsholm College, has also made several independent mycological investigations. I am highly indebted to Mr. O. Rostrup because he has, in different respects, assisted me with the present work, and particularly because he has undertaken to make the necessary drawings.

Rützou. Rützou, Sophus Marius, born May 12. 1851 in Copenhagen. Pharmaceutic exam. 1873. Assistent of the Botanical Museum. Lecturer of Pharmacognocy of the Pharmaceutical College. From 1901 apothecary at Frederiksberg.

Sarauw. Sarauw, Vilhelmine, daughter of C. A. N. Sarauw, verderer of the Petersgaard district. Married later on Fabricius de Tengnagel. Miss Vilhelmine Sarauw has especially in the years 1880—1882 collected a great many Pyrenomycetes on bark and branches of forest=trees partly near Charlottenlund partly near Sorø. Besides the specimens sent to Rostrup's herbarium Miss S. collected them in a special volume which has now been presented to the Bot. Museum by Mr. Fabricius de Tengnagel. Has also after her marriage made — at least one interesting discovery viz. that of Didymosphaeria marina (R.).

Schiøtz. Schiøtz, Ludvig Theodor, born near Roskilde Septbr. 4. 1821. Pharmaceutic exam. 1844. Brewer in Odense from 1859 till his death 1900. Interested botanist. Rostrup has several times visited Schiøtz in Odense for weeks in summer and accompained him on yachting excursions in his yacht "Sakuntala" from where they went ashore in islands and peninsulars to examine the flora of the beaches. (Orbituary by E. Rostrup see Bot. Tids. v. 23 pag. XXXVII—XXXVIII).

V. S. Schmidt, Harald Valdemar Sextus, born Jan. 12. 1834 in Copenhagen, visited the "Efterslægtselskabets" College where Johan Lange by that time was a teacher; through him he got very interested in botany which interest he never lost. Was apprenticed to the gardener of the Royal Gardens of Rosenborg, but later on (1863) he passed the examination for board=school=teachers and was for years a school=master at Dvergetved in Vendsyssel. Has found many new fungi in the neighbourhood of Frederikshavn.

H.Schested. Schested, Hannibal, born at Broholm castle Novbr. 16. 1842. Graduate at Law 1869, succeeded to his family estate Broholm in 1894. 1900 Minister for Foreign Affairs and Prime=Minister til 1901. Member

of several agricultural societies. One of the most faithful friends of ROSTRUP's already from the first years of his Skaarup-life while S. lived in the farm Tangegaard near Skaarup. ROSTRUP and his people often came to see him, and he frequently sent diseased plants from his garden and wood to ROSTRUP. Several fine specimens of the collection of the Vet. & Agricul. College originate from him.

SMITH, LORENZ, born in Fredericia Oktbr. 23. 1868. Horticultural exam. 1890. Graduated as a foresters 1896. From 1897 verderer at the "Hedeselskabet" (Moor-cultivating Company). Smith.

THOMSEN, CHRISTEN, born Aug. 7. 1822 in Copenhagen, died Decbr. 1. 1874. Assistant teacher of the Colleges of Horsens and Roskilde. Ardent florist. Wrote "The Flora of the Neighbourhood of Roskilde", published in the programme of the College of Roskilde 1874. Collected especially during the years 1870—74, a great many parasitic fungi in the neighbourhood of Roskilde. Thomsen.

THYMANN, CARL HENRIK, born near Stubbekøbing Octbr. 31. 1854. Graduated as a forester 1879. Verderer of the Petersgaard district. Son of the verderer JOH. H. THYMANN in the Isle of Falster. Thymann.

WARMING, JOHANNES EUGENIUS BÜLOW, born Novbr. 3. 1841 in the Isle of Manø. M. A. 1868. Ph. D. 1871. Professor of Botany of the University of Copenhagen 1885—1911. Succeeded ROSTRUP as President of the Botanical Society. Has made many contributions to ROSTRUP's herbarium from all parts of Denmark. I am also highly indebted to Professor E. WARMING because he has, in several ways, assisted me with the present work particularly as Director of the Botanical Museum by permitting me to execute my work in the Museum during the five years in which I have been occupied with the collection, left by ROSTRUP as also because he, as member of the board of the Carlsberg Fond, has taken an interest in procuring the necessary funds for me. E. W.

WEGGE, POUL VILHELM, born Aug. 26. 1864 in Sweden. Son of ranger and verderer C. D. T. V. WEGGE. Graduated as a forester 1885. Verderer of the Friisenborg district 1888—1892, from 1892 of the Boller district; has often made valuable observations as to the diseases of forest-trees and informed ROSTRUP of the same. Wegge.

WEISMANN, CARL, born July 11. 1871 at the verdery of Boller. Son of verderer LORENTZ P. WEISMANN. Graduated as a forester 1893. Occu- Weismann.

pied himself for some years with fungi on timber. Assisted Rostrup with the preliminary work and the publication of his book on Merulius lacrymans (R 98 a).

Wendt. Wendt, Frantz Wilhelm, born Juli 2. 1815 in Copenhagen. 1851—1889 gardener of the nursery of St. Jørgensbjerg, Roskilde, also farmer. Active member of The Society for the Improvement of Cultivated Plants. Often sent diseased horticultural plants to Rostrup. Author of many articles on horticulture and agriculture. Died Aug. 2. 1895.

Winge. Winge, Herman Peter, born Septbr. 16. 1839 in Copenhagen. Graduated as foresters 1868. Chief-verderer at Friisenborg 1875; also surveyor of the forest of Pederstrup and Christianssæde.

O. W. Winge, Øjvind, born 1886 in Aarhus. M. Sc. 1910 (see Ferdinandsen).

FOREIGNERS WHO HAVE TAKEN PART IN THE MYCOLOGICAL INVESTIGATION OF DENMARK.

On account of its small extension and its want of mountains the Kingdom of Denmark has been no great attraction to foreign mycologists. The northern parts of our country Greenland and Iceland have been more frequently visited than the mainland. It is also true that Danish mycologists as Rostrup (83 b, 84 b & f, 91 l, 04 f, 05 a) E. Warming (R. 86 m) and myself (Lind 05, 07 a & 08 a) have assisted the Norwegians and the Swedes more in the knowledge of the fungi of their own country than those nations have assisted the Danes.

The part of Denmark which most frequently has been visited by foreign mycologists is the Island of Bornholm. Dr. F. W. Neger of Tharand stayed a forthnight in Bornholm in the summer 1906 and found several fungi which he published in the "Botanisk Tidsskrift" (Neger 06). Professor Dr. G. Lindau of Berlin visited the island for a few days (Lindau 1897) and some Swedish foresters visited it in summer 1904 (Schotte 08).

The famous English mycologist Charles Plowright visited Rostrup in Copenhagen Septbr. 26. 1888 and they made together an excursion to Ruderhegn (see Plowright 1888).

Professor Dr. P. Hennings of Berlin has paid a few visits to Copenhagen.

Of Swedish mycologists may be mentioned the lecturer Ernst Hen-

NING of Ultuna who visited ROSTRUP in Copenhagen in 1894 and P. NIELSEN in Tystofte (see Henning 95), lecturer H. G. SIMMONS of Lund who occasionally paid visits to Seeland to collect fungi, and Professor, Dr. JAKOB ERIKSSON of Stockholm (see Er. 08 [20]).

Of greater interest than any of the above mentioned were the two visits paid to ROSTRUP at Skaarup in 1882 & 1883 by CARL JOHAN JOHANSON. Although ROSTRUP often enjoyed the honour of receiving proofs of the high estimation of his work in foreign countries, and although he was often permitted to help and guide foreigners, I surely believe that there is no foreigner with whom ROSTRUP has been so closely connected as with C. J. JOHANSON. The reason for this must surely be found not only in the exceedingly sympathetic character of JOHANSON, but also in the fact that he came as a deputy from Sweden to ROSTRUP to be the first pupil who came to study mycology with ROSTRUP.

The visit of JOHANSON was a great pleasure to ROSTRUP who then was still living at Skaarup, where he had been botanizing at the same places during 23 years and where he had found hundreds of fungi; but never before in a corresponding period ROSTRUP made so many new and interesting observations as to mycology as during the 1½ month which he spent in constant company with JOHANSON; mostly they made shorter or longer excursions, accompanied by ROSTRUP's son OVE who enjoyed his summer holidays, his daughter ASTA and even Mrs. ROSTRUP; every faded leave of grass and every stalk was examined, and often were two or three species of fungi found on the same leaf; one thing is to be seen: how all have reciprocally animated each other, trying to exceed one another in finding new things; during those forty days ROSTRUP was able to state the discovery of ten species nova (f. inst. Entyloma hottoniae & Tuberculina maxima) and at least 60 species, new to Denmark (f. inst. Giberella vaccinii, Pleospora typhicola, Thecaphora deformans, Pucc. eriophori, Pleospora urticae, Sclerospora graminicola, Septoria thecicola). ROSTRUP and JOHANSON made together an excursion to Jutland where they, by local observation, found the genetic relation of two different forms of heteroecious fungi. Near Silkeborg (June 20. 1883) they found aecidia on more species of Cirsium, and in company with the attacked plants Puccinia

C. J. JOHANSON.
From a photo from 1884.

dioecae on Carex dioeca was always found. In "Store Vildmose", near Ny Vraa and S. Elkjær they found a hitherto unknown Aecidium on Cineraria palustris and next to it was found Puccinia eriophori Thümen which then was known only in Siberia. Also on their return to Skaarup when they found aecidia which ROSTRUP had only found in a few growing places they several times tried to find directions as to their probable alternating host-plant by looking for decayed rusty leaves; in this manner the relation between Aecidium glaucis and Uromyces maritimae as also between Aecidium sonchi and Puccinia littoratis were found, and ROSTRUP has expressly put down in his diary that it was most frequently "sharp-eyed JOHANSON" who discovered the decaying rusty leaves. All those four combinations have later on proved correct.

JOHANSON and ROSTRUP continued to carry on a frequent correspondence, and no doubt JOHANSON should have repeated his visit to ROSTRUP if his promising mycological studies had not in a sad way been interrupted by his being drowned in the river "Fyrisaa" June 26. 1888 not fully 30 years of age while attempting to rescue a boy who had fallen into the water. The fungi collected in Denmark by JOHANSON are contained in the Botanic Museum of Upsala; more species had been collected in so great a number that they have later on been able to be published in Vestergren's exciccati. (Biography of C. J. Johanson see Bot. Notiser 1888 p. 190).

THE PLAN OF THE WORK.

THE MATERIAL of the present list of Danish fungi is not only the posthuman fungi herbarium of ROSTRUP; it consists of all the collection left by ROSTRUP and now revised by me viz. both ROSTRUP's collection of Danish fungi which was, after his death, bought by the Danish Government and which is now contained in the Botanical Museum of the University of Copenhagen; as also all fungi which ROSTRUP has, in the course of time, collected and presented to the Botanical Museum, or those collected by others and determined by ROSTRUP; also the fungi distributed by him through the exsiccati to which he has contributed, and the fungi which he has included in the phytopathological collection of the Vet- & Agricul. College. I have also studied his written mycological diaries and all the numerous papers (more than 500), small and large which he published. I have also added some fungi I have myself found during the later years and

completed the work with a few other discoveries, taking it for granted that, if ROSTRUP had been alive, specimens of the said fungi would also have been sent to him and included in his herbarium.

I have been unable to expose all the present material of fungi to a microscopical examination, it would have taken too long a time and would also have been unnecessary as far as concerns all the parasitic fungi limited to certain host-plants; but I have examined as many as I considered necessary and which caused any doubt as to the accuracy of the determination. In the collection I also found several specimens of denominations out-of-date or related to collective species. Many of the species contained in the collections of the Botanical Museum or the Vet. College were indicated by names which had, later on, been corrected in the herbarium. Species formerly considered well-separated have later on been united and, vice versa, species formerly considered autonomous have later on been divided. A few times a fungus had been wrongly determined because ROSTRUP had made a mistake as to the host-plant; in such cases I always discussed the matter with Dr. C. H. OSTENFELD, keeper of the museum, in order to avoid a misjudgement of the determination of ROSTRUP. Consequently it has been rather an extensive work to refer all the present specimens to their right species. I have considered it unnecessary to note all the cases in which ROSTRUP'S determination differed from mine when the wrong name was only found in the herbarium, but it has been necessary to make a correction every time ROSTRUP has published a wrong name; this is, however, very seldom the case.

THE DISTRIBUTION OF THE FUNGI has interested me very much; I have used all the information at my disposal to procure a true picture of the distribution of each separate species; many of them are so common that they may be found everywhere if only they are looked for, but a number, even of the more conspicuous of them, have a distribution which is by no means the same as that of their host-plants. The greater part of the information, based upon the observations of ROSTRUP and others, which I am able to give concerning the distribution of the separate species in Denmark cannot claim to be considered entirely satisfactory, the fungi being too small and inconspicuous, too little sought after and too alternating in appearance for that, but I hope that the present list of their finding places may cause others to look for the fungi.

THE FINDING PLACES have all been arranged from north to south and, as far as concerns those from the same altitude, from west to east; first Jutland (J) then Funen (F), Langeland (Lang), Seeland

(S), Amager (Am), Lolland (L), Falster (Falst) and Bornholm (B). As to the species of fungi described by ROSTRUP I have also tried to get information of their distribution in foreign countries.

THE SYSTEMATICAL ORDER I have used is the same as stated by ENGLER & PRANTL: Die natürlichen Pflanzenfamilien, this being the latest work comprising all families of fungi; I have also followed SYDOW's Monograph of Puccinia & Uromyces and, as far as concerns the Erysiphacae, E. SALMON's Monograph. I must also mention P. MAGNUS' book on the fungi of Tirol as a work which has been of great use to me because it is as extensive as the present one; I have only been more at liberty to insert critical and elucidatory remarks than P. MAGNUS was.

As to the host-bound parasites or saprophytes of the particular families, I have arranged them according to the connection of the host-plants, both because closely connected Phanerogams often have closely connected parasitic fungi and because it is always convenient to the general view to have the species of fungi of one genus found on the same host collected in one place.

The proper place of pleomorphic fungi in such a list may be very disputable; of course not that of Uredinales which are now so well known, but that of all so-called Fungi imperfecti. I have preferred to collect all the fungi furnished with independent names separately in the same way as SACCARDO and RABENHORST have done, with the exception of the conidial forms belonging to Ustilaginales (Gloeosporium antherarum, Paipalopsis etc.) and those belonging to Erysiphaceae (Oidium) and Aspergillaceae which I have stated together with the principal species to which they belong. Rostrup often occupied himself in searching for the proper relation of the higher form of fructification and the fungi imperfecti; and several mycologists are still engaged in finding the hitherto unknown relations. I have made great efforts to find as many reliable statements as possible concerning this matter, thinking, that through analogical forms it might be easy to state to a certain probability whether other connected forms belong to each other or not, when, for instance, a whole series of »species« of Fusicladium have been proved to be conidial forms of species of Venturia it might be rather probable that all "species" of Fusicladium would belong to Venturia. By and by when more and more light is thrown on the biology of those fungi, their systematic arrangement will also be altered; at present the Fungi imperfecti are divided only according to the shape and size of their conidia and perithecia; but the time is not far distant when all those which are stages of development of pleomorphic species will be arranged only according to

the systematic position of their principal species. The formgenus Placosphaeria consists, for instance, at present chiefly of the conidial fruits of Dothideaceae; it might therefore be adequate to exclude all the Placosphaeries which are conidial stages of species belonging to other groups. In the large formgenus Phoma v. Høhnel, Bubak, Diedicke, Sydow and others have commenced separating all those belonging to species of Diaporthe calling them Phomopsis. Others prefer to incorporate the conidial form of fruit completely in the name of the ascigerous fructification (for example Nectria cinnabarina also for Tubercularia vulgaris, Venturia for Fusicladiumforms etc.) as soon as the genetic relation is proved, as it is performed with Uredinales, Peronospora etc. But such a proceeding is possible with only so few species of Ascomycetes that it would be inconvenient in the present work to include so many species whose generic relations are either fully evident, matters of supposition or quite unknown.

THE DESCRIPTION of the separate species I have quite omitted, as when speaking of each species I have made references to one or more of the manuals where the description will easily be found. In the quotations more references may generally be found. I have, however, frequently reiterated ROSTRUP's original descriptions of his species. In all cases where a fungus has been badly described I have, as far as possible, contributed to give a more detailed knowledge of it.

FIGURES. The figures in the text are reprinted from older figures, made by ROSTRUP and especially illustrating ROSTRUP's species. The figures on the tables are originally, drawn by Mr. O. ROSTRUP.

REFERENCES. I have made as few references as possible; in the splendid, up-to-date manuals by SACCARDO, RABENHORST, SCHROETER, ENGLER and PRANTL, SORAUER (Phytopathology by G. Lindau), ROSTRUP (02 a) etc. numerous useful references may always be found, I have, therefore, limited myself to quoting from ROSTRUP's works and from other works published in this country, as also from such works as have recently been published and which have not been quoted in the said manuals.

References to SCHUMACHER's Enumeratio imply also that the same fungi are found in the north of Seeland by SCHUMACHER and for this single book I have preferred to quote the number given to the species concerned instead of quoting the number of the page.

NOMENCLATURE. I have followed the rules for nomenclature carried at the International Congress in Brussels, Belgium, May 1910

viz. that FRIES: S. M. should be the starting point for the nomenclature of the fungi, except for the Uredinales, Ustilaginales and Gasteromycetes which date from PERSOON's SYNOPSIS. It has been no small work to carry through those rules for so many names as are stated here, these rules not having been used before in mycological literature. It has necessitated a closer study of FRIES's S. M. and PERSOON's SYN. which I have, therefore, quoted with every separate species. It is to be desired that all mycologists should submit to those rather practical rules so that the question of nomenclature might once be so far settled that it in future should play no greater part than it deserves.

With each species I have also quoted the synonyms used by ROSTRUP or earlier Danish authors in order to facilitate the understanding of their works; as also the names used in RABENHORST's Kryptogamenflora and in SYLLOGE FUNGORUM. Especially in the latter work the same species will often be found under different names.

I have also adopted, what is now common, the spelling of all names of species with small initial letters when they are not derived from names of persons.

THE DANISH NAMES OF THE FUNGI. Although it is not common in systematic works to use or quote the domestic names of fungi I have considered it necessary to state them in the present work which, in several ways, has a historical character. In several of his works ROSTRUP deals with the ancient popular names of the fungi (R. 1875), and he has very often denominated them himself (e. g. R. 69, 83 d, 93 d, 02 a and 04 a); after ROSTRUP F. KØLPIN RAVN and M. L. MORTENSEN have followed in his footsteps giving Danish names to the parasitic fungi when they were mentioned in popular papers. Prior to ROSTRUP, SHUMACHER (26), HORNEMANN (37) and VIBORG (1793) have given Danish names to the fungi; I have, therefore, thought it necessary to quote them here in order that those who may want to use Danish names in the future should not increase the number of them but use the same as have formerly been used for the same species. It must be noticed that JENSSEN-TUSCH who has so enthusiastically (1867) collected the Danish names of plants only mentions very few Danish names of fungi.

PHAENOLOGICAL OBSERVATIONS have, as far as concerns the fungi, been very much neglected by earlier authors (Schroeter, Bubak and Liro excepted), I have, therefore, stated as many facts in that respect as possible, believing it to be of great importance in different respects.

THE FIRST DISCOVERY. It was always of interest to ROSTRUP to ascertain who first found a certain fungus in this country as also when it was first found; so I have, for many species, stated the day and the year of the discovery and the place which, according to the present information, may be considered the first place where it was found; for most species it is only of interest as a curiosity, as we are obliged to take it for granted that the species was to be found in this country long before that time; still it gives some useful information for instance as to the progress of knowledge of the fungi in the course of time. With regard to a number of fungi, especially those causing damage to cultivated plants we have reliable information stating that they were not found in this country before the stated period (Sphaerotheca mors uvae, Uromyces betae, Puccinia malvacearum, Monilia crataegi, cinerea & fructigena). The dates and the places given are also of further importance in showing how those species of fungi are continuously to be found in the same localities. Uromyces phyteumatum was found by ROSTRUP at Klokkedalen near Horsens in May 1885, and I found it in the same place in 1902; J. JEPPESEN (Ranum) found Puccinia littoralis at Horsens Fjord in 1876, and it is still found there; C. GAD found Pseudoplectania nigrella in a spruce plantation near Viborg Nørresø in February 1884, and I found it in the same plantation in 1906; numerous similar examples are stated in the text.

On the other hand it is often noticed that fungi which have, for some years, been very common will completely or almost completely disappear; see for instance Puccinia apii, Pucc. chrysanthemi etc.

ABBREVIATIONS AND SIGNS. Where the name of the finder is not stated at the discovery it is to be understood that ROSTRUP himself has found the fungus there.

!Indicates that I have made the discovery.

The names of other finders are either not abbreviated or in the other case indicated by the abbreviations stated on page 26—40.

Day and year after a finding place indicates that this was the first locality where the said fungus was found in Denmark.

As to parts of the country J. means Jutland, F.: Funen, Lang: Langeland, S.: Seeland, Am.: Amager, L.: Lolland, Falst.: Falster, B.: Bornholm.

Concerning abbreviations of references to literature see the end of the book.

Exc. followed by a date indicates that the fungus was found during an excursion of the Botanical Society on the stated day.

Exs. indicates that specimens from the stated locality have been distributed in exsiccati. Fungi from Denmark have been distributed in the following exsiccati:

Jaap.	— Otto Jaap: Fungi selecti exsiccati.
Kabat & Bubak.	— J. E. Kabat & F. Bubak: Fungi imperfecti exsiccati.
Rbh.	— G. L. Rabenhorst: Fungi europaei exsiccati.
Rehm.	— H. Rehm: Ascomyceten.
Roumeg.	— C. Roumeguère: Fungi gallici exsiccati.
Sydow Phyc.	— P. Sydow: Phycomyceten et Protomyceten.
— Ured.	— — : Uredineen.
— Ust.	— — : Ustilagineen.
Thüm. oec.	— F. von Thümen: Herbarium mycologicum oeconomicum.
— Myc.	— — : Mycotheca universalis.
Vgr.	— Tycho Vestergren: Micromycetes rariores selecti praecipue scandinavici.

In conclusion I beg to present my heartiest thanks to the Committee of the Carlsberg Fund for the great generosity with which they have supported me during my preparation of the present work and with which they have taken upon themselves to bear all the expenses of its publication.

The Botanical Museum of the University at Copenhagen.

March 1912. J. LIND.

Phycomycetes.

Chytridineae.

Olpidium.

1. **Olpidium luxurians** (Tom.) Fischer IV [29], Syn: O. diplochytrium Schroet., Syll. VII [310], Chytridium pollinis-typhae Tom., Syll. VII [307].
In the pollen of *Picea excelsa*. S. Boserup Skov ($^{9}/_{5}$ 1894 R 96 m); J. in interglacial deposits near Brørup. (Hartz 09 [154]).

Synchytrium (incl. *Pycnochytrium*).

2. **Synchytrium laetum** Schroeter, Syll. VII [290], Fisch. IV [55].
April—May.
Gagea lutea. F. Ringe!, Langkildegaard ($^{10}/_{5}$ 73), Skaarup.

3. **Synchytrium aureum** Schroeter, Syll. VII [290], Fisch. IV [56].
May—July. Rostrup has supposed (85 a) that its spores are spread by means of the water, which fact has, later on, been confirmed by Walter Rytz (07).
Hydrocotyle vulgaris. Falst. Liselund. *Lysimachia thyrsiflora*. J. Søndermølle near Viborg! *Valeriana dioeca*. L. Freilev Mose (C. H. O. see R 99 a [254]); B. Vallensgaard Mose! (Exc. $^{15}/_{5}$ 1911). *Cirsium oleraceum*. F. Skaarup ($^{16}/_{6}$ 1874).

4. **Synchytrium globosum** Schroeter, Syll. VII [288], Fisch. IV [60].
June—July.
Viola stagnina. Eskildstrup Sø. Munkebjærgby (C. H. O.). *Veronica scutellata* (not "anagallis"). S. Tisvilde Hegn ($^{12}/_{7}$ 1897 see R 99 a [254]). *Cineraria palustris*. J. Sparkær! (Exs. Syd. Phyc. no 273), Non Mølle! *Senecio vulgaris*. S. Havstokken near Hornbæk.

5. **Synchytrium stellariae** Fuckel, Syll. VII [291], Fisch. IV [52].
May—August.
Stellaria media. J. Gaardbogaard (O. R.); F. Skaarup (Exs. Thüm. Myc. no 1313), Storehave near Svendborg ($^{28}/_{5}$ 75).

6. **Synchytrium anemones** (Fries) Woronin, Syll. VII [288], Fisch. IV [60], Syn: Dothidea anemones Fries S. M. II [563], Aecidium punctatum

Schum. no 1527 (R 85 g [154]), Fl. D. tab. 2217 fig. 2. Prikket Støvskaal (H 37 [906]).

April—June, is found both on stalks, leaves and flowers of the host-plants. Very common, noticed from the following localities:

Anemone nemorosa. Læsø. Lunden (C. H. O.); J. Skive! Viborg (Gad.); F. Otterup (1850), Vejstrup Aaskov (R 79 [20]), Skaarup; S. Bidstruphegn! Dronninggaard, Frederiksdal (Raunkiær), Søndermarken (K. M. Lind), Boserup Skov (Thomsen & F. K. R.), Næsbyholm. *Anemone ranunculoides*. S. Hareskov!, Dronninggaard, Herlufsholm (O. R.). *Anemone nemorosa* × *ranunculoides*. F. Vejstrup Aaskov.

7. **Synchytrium mercurialis** Fuckel, Syll. VII [288], Fisch. IV [61], Syn: Aecidium mercurialis Schum. no 1517 (see R 85 g), Fl. D. tab. 2216 fig. 2.

May—September.

Mercurialis perennis. J. Skive! Klokkedalen and Thingstedholm Skov near Horsens; F. Vejstrup & Klingstrup; Thorseng Vinby; S. Frederikssund Færgelund (E. W.), Dyrehaven (F. K. R.), Roskilde Vesterskov (Thomsen), Tølløse (F. K. R.), Herlufsholm (O. R.); B. Almindingen! (Exc. [15]/5 1911).

8. **Synchytrium anomalum** Schroeter, Syll. VII [289], Fisch. IV [59].

May, in the leaves, petioles and flowers.

Adoxa moschatellina. S. Ermelunden; F. Hallingskov near Svendborg ([31]/5 75).

9. **Synchytrium myosotidis** Kühn, Syll. VII [290], Fish. IV [54].

May—September.

Myosotis silvatica. F. Skaarup ([18]/9 1882 C. J. Johanson, Exs. Thüm., Myc. no 2215); Falst. Stubbekøbing.

10. **Synchytrium taraxaci** de By. et Woron., Syll. VII [291], Fisch. IV [49].

May—July, not common, but where it is found it generally appears in abundance.

Taraxacum vulgare. F. Ringe!; Ærø Rise (Jak. Lge); S. Charlottenlund (F. K. R.); L. Gallemose ([22]/7 79).

Physoderma (incl. *Cladochytrium*).

After Fischer's (IV [134]) having used the name of Physoderma for a subordinate genus of Cladochytrium Rostrup (97 m [38]) drew attention to the fact that the older name of Physoderma Wallroth ought to have the preference as name of genus to that of Cladochytrium. Later on Lagerheim (98 [11]) also maintained the same argument.

11. **Physoderma maculare** Wallr., Syll. VII [317], Syn: Cladochytrium alismatis Büsg., Fisch. IV [139], Lit: R 90 e [161].

July—August, in the leaves and stems.

Alisma plantago. J. Frederikshavn!, Thorum!, Bjerregrav! (Lind 04); F.

Kirkeby, Skaarup; L. Stensgaard. *Echinodorus ranunculoides*. J. Ferring! Hasseløv near Æbeltoft (Schjøtz); Samsø ($^{27}/_{7}$ 72 Thomsen).

12. **Physoderma butomi** Schroeter 1882, Syn: Phys. butomi Karst. 1888, Syll. IX [363], Cladochytrium butomi Büsg., Fisch. IV [136].

July—August; generally all specimens of the host-plant growing in the same place are affected (R 04 a [13]).

Butomus umbellatus. F. Hindsholm (Otto Møller), between Midskov and Mesinge (Exc. $^{5}/_{8}$ 95), Kirkeby ($^{19}/_{7}$ 1883); S. Brederød (R 92 g [66]), Botanisk Have! Landbohøjskolens Have, Skjelskør!; Falst. Stubbekøbing.

13. **Physoderma heleocharidis** (Fuck.) Schroeter, Syll. VII [317], Syn: Cladochytrium hel. (Fuck.) Büsgen. Fisch. IV. [139].

July.

Scirpus paluster. J. Raabjerg Milesøer!; L. Steensgaard (July 77).

14. **Physoderma acetosellae** Rostrup 97 m [37], Syll. XIV [447].

Sporae perdurantiae sive globosae 15—25 μ diam., sive ellipsoideae, 30—35 × 23—26 μ membrana hyalina protoplasmate brunneo farctae, intracellulares, in eadem cellula 1—3. Sporae majores subinde 1—2 appendiculatis ovatis instructae.

Fructibus Rumicis acetosellae deformans.

The ovary is transformed into a cylindric or somewhat clavate body 3 mm long and 1 mm thick, most frequent in all flowers of the affected plant. As far as I have been able to ascertain it is not found outside Denmark. Is particularly found in July. (Se tab. I).

Rumex acetosella. J. Tolne (V. Schmidt), Tylstrup!, Hobro!, Ærtebølle, Ølgod (E. W.); S. Jonstrup (H. M.), Eremitagesletten (1843 Joh. Lange).

15. **Physoderma deformans** Rostrup 85 a, Syn: Protomyces anemones Rostrup (79 [20] nomen nudum).

The host-plant produces gigantic flowers with a conspicuous, stiff and thick perianth. The affected plants remain a long time after the fading of the other anemones; the leaves have broad and stiff laps, a thick and rugged stalk, the flowers amorphously large up to 8 cm. in diameter with green, crimson or white, cartilaginous, stiff perianth suggesting on Helleborus viridis. The stamens sterile, red or green, the pistil swollen and monstrous. (R 85 a).

Rostrup adds (1899 a [254]) that it is not always easy to find the spores of the fungus in the monstrous anemones, but on leaving the plant for about a week in a damp room an abundant number of spores will generally be found, especially in the thick, pulpy perianth. The spores are globular or thick, ovate, 12—16 μ diameter, with a thick wall and of a pale yellowish colour; the very ramified mycelium is frequently rather strongly developed, with very few cross-walls. (See tab. I).

Klebahn (97) has examined the same deformed anemones, but he did not know Rostrups species and was unable to find any fungus.

Anemone nemorosa. J. Skovgaard Krat in Vendsyssel (H. Loft), Loddentot near Horsens (Gelert); F. Slipshavn (C. H. O.), Broholm, Vejstrup Aaskov (1879); Lang. Longelse (Gelert); S. Lyngby Skov near Arresø, Charlottenlund (A. Lge); B. Allinge, Almindingen (Exc. $^{15}/_{5}$ 1911). *Anemone ranunculoides.* S. Færgelunden, Ordrup Krat, Næsbyholm.

16. **Physoderma tenue** (Nowak.) Karst., Syn: Cladochytrium tenue Nowak., Syll. VII [295], Fisch. IV [135].

On the petioles of *Nymphaea.* S. Bøllemose ($^{18}/_{9}$ 02 H. Pet. 09 [408]).

17. **Physoderma comari** (Berk. & White) Lgh., Syn: Doassansia comari (B. & W.) de Toni, Syll. VII [506].

Is a very northern species recorded by Rostrup from Iceland ("Physoderma vagans" R 03 b [285]), and by Lagerheim (98 [11]) and Vleugel (08 b [364]) from the north of Norway and Sweden; it has also been found a few times in Scotland (Stevenson 79 [252]) and England (Plowright 89 [301]).

Comarum palustre. J. Kannestederne ($^{12}/_{7}$ 03!).

18. **Physoderma myriophylli** (Rostrup) Vgr. Micr. Rar., Syn: Cladochytrium myriophylli Rostrup 1905 b [305], Lit: F. & W. 09 [305] c. icon., H. Pet. 09 [408].

On stalks of Myriophyllum were found a number of thick, tuberous tumours up to 1 cm. thick, proving to be filled with big, ellipsoidal or — more seldom — spherical, sometimes rounded, polyedric spores; they were furnished with a stratified, brownish-yellow wall 4 μ thick, and its size varied from 25 to 40 μ in length and 20—25 μ in thickness. These spores were partly resting-spores partly sporangia, some of them producing numerous spherical, colourless spores 6 μ in diameter. (R 05).

Ferdinandsen and Winge who have later on examined this fungus more thoroughly (F. & W. 09 [305] c. icon) have stated that the things called spores by Rostrup are uniform drops of oil. The resting spores remain unchanged the whole winter and are germinating during March—May. The zoospores are 6—8 μ in diameter and are pressed forth through the collum. (See fig. tab. I.)

Myriophyllum verticillatum. S. Carl Sø near Frederiksborg (E. W.), Ølstykke Mose (O. R. Exs. Vgr. no 906), Grøft ved Bure Sø (O. R. $^{17}/_{9}$ 02 and again 03), Ryget Mose (Exc. $^{30}/_{9}$ 06), Holte (Nic. Hartz), St. Jørgen Sø (abundantly O. R.).

19. **Physoderma hippuridis** Rostrup (92 a [631]), Syll. XI [250], Syn: Cladochytrium hippuridis de Wildem., Syll. XIV [448].

Maculae pustulatae, fuscae, 0,5—1 mm diam. Sporae parenchymati

foliorum innatae, ellipsoideae, long. 20—25 μ, crass. 12—16 μ pallido-fuscae, pellucidae. (See fig. tab. I).

Besides in Denmark proper this fungus has been found twice in Greenland (Lind 10 b [150]) and in Iceland (R 03 b [286]) as well as in Sweden, Belgium and France (see Vgr. 02 [162]).

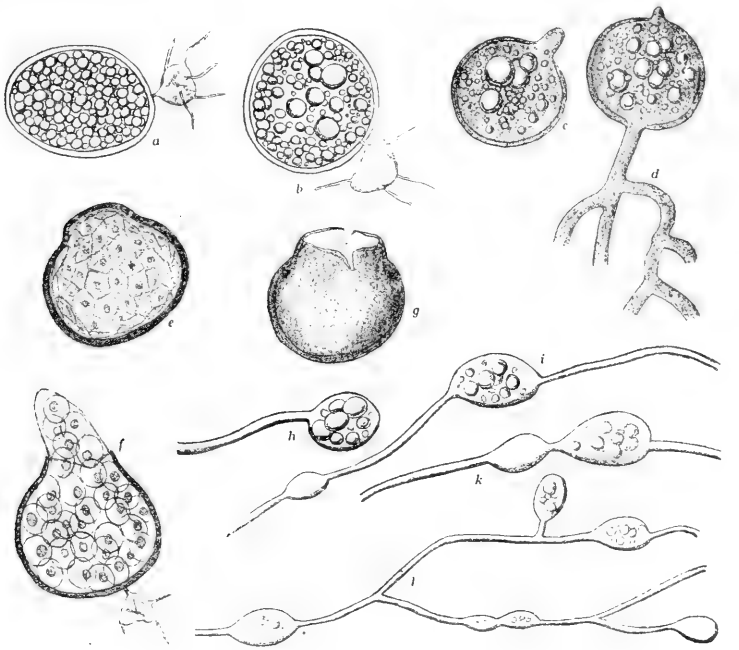


Fig. 1. Physoderma myriophylli (Rostrup).

a and b: Resting spores with their appendicular cells; c and d: Spores germinating with hyphae; e: A spore being about the metamorphosis into sporangium; f: A sporangium exhausting the ripe zoospores; g: An evacuated sporangium; h—l: Supposed young zoosporangia on hyphae, hwich have been developed by vegetative germination of the resting spores (a—l $\frac{650}{1}$). From F. & W. 09.

On stems of *Hippuris vulgaris*. F. Eiby Mose (July 1896 Jak. Lge see R 99 a [254]).

20. **Physoderma vagans** Schroeter, Syll. VII [318], Syn: Cladochytrium v. Fisch. IV [140].

Cicuta virosa (hosp. nov.). J. Non Mølle ([23]/9 04!).

21. **Physoderma menyanthis** de By., Syll. VII [318], Syn: Cladochytrium men. de By., Fisch. IV [137], Lit: R 90 e [162].

July—August, not uncommon.

Menyanthes trifoliata. J. Hulsig!, Uggerby!, Rimmen!, Blaavand (F. K. R.);

F. Midskov, Odense, Ringe!, Klingstrup Mølledam (R 79 [13]); S. Bjerre (P. N.), Ulledie (Exc. [28]/6 02); L. Stokkemarke ([7]/8 73).

Urophlyctis.

22. **Urophlyctis major** Schroeter, Syll. VII [303], Syn: Cladochytrium majus (S.). Fisch. IV [141].

In the leaves of *Rumex acetosa*. F. Skaarup ([13]/7 83).

23. **Urophlyctis pulposa** (Wallr.) Schroeter, Syll. VII [303], Syn: Physoderma pulp. Wallr., Cladochytrium pulp. Wallr., Fisch. IV [136], Oedomyces leproides Trabut, R 02 a [178], Physoderma lepr. Lgh., Syll. XIV [448].

July—Sept., on the leaves and stems of Chenopodiaceae.

Chenopodium glaucum. Amager Fælled. *Chenopodium rubrum*. L. Lidsø (Exc. [4]/8 84). *Atriplex hastatum*. J. Astrup in Salling (E. W.); S. Flaskekroen (O. R.), Korsør (Sept. 72. P. N.).

24. **Urophlyctis trifolii** (Passer.) Magnus, Syn: Synchytrium trifolii Passer, Urophlyctis bohemica Bubak, Syll. XVII [515], Lit: R 02 a [178], Magnus 02 [896].

Trifolium repens. J. Astrup ([6]/6 01!).

Ancylistineae.

Myzocytium.

25. **Myzocytium proliferum** Schenk, Syll. VII [279], Fisch. IV [74].

On a dead insect floating on water, S. Flaskekroen (C. H. O.)

Saprolegniineae.

Saprolegnia.

26. **Saprolegnia ferax** (Gruit.) Thuret, Syll. VII [269], Syn: Sap. Thuretii de By., Fisch. IV [339], ? Byssus aquatica Müller, Fl. D. tab. 896.

Common on dead flies, crayfishes, fishes etc. in water.

Aphanomyces.

27. **Aphanomyces levis** de By., Syll. VII [276], Fisch. IV [358], Aphanomyces-Rodbrand (M. L. M. 11 a).

On skin of *Phryganeae* (H. Pet. 09 [386]), on seed-plants of *Beta vulgaris* common (M. L. M.).

Apodya.

28. **Apodya lactea** Cornu, Fish. IV [370], Syn: Leptomitus lacteus Agardh, Syll. VII [265], Saprolegnia Libertiae Kuntze, Syll. VII [270].

Covers receptacles and drains of sugar-manufactories with a whitish fleece (R 04 a [16]).

Pythium.

29. **Pythium cystosiphon** (Roze & Cornu) Lindst., Syll. VII [271], Fisch. IV [402].

Lemna trisulca. Jonstrup Vang (02 O. R.).

30. **Pythium de Baryanum** Hesse, Syll. VII [270], Fish. IV [403], Kimskimmel (R 86 f & 93 c), Rodbrand (R 04 b [408]), Rodforraadnelse, Sorte Ben (R 76 b [38] & 88 n [43]), Pythium-Rodbrand (M. L. M. 11 a), Lit: F. K. R. 08, J. L. Jensen 94.

Very common in May on seed-plants, but also to be found from February to June. Causes much damage in hothouses and fields, found on many different host-plants.

H. Petersen also records (09 [395]) having found it on a dead caterpillar.

Hordeum sativum. S. Lautrupgaard ($^{8}/_{6}$ 84). *Asparagus officinalis.* Lang. Tranekær (Rasmussen). B. Rønne (R 94 k & 02 a [180]). *Fagopyrum esculentum.* S. Lyngby (M. L. M). *Beta vulgaris.* Common (R 04 b [408]). *Brassica oleracea.* J. Ribe (Simonsen). *Raphanus sativus.* S. Brøndbyvester. *Anthyllis vulneraria.* J. Skern (M. L. M.). *Pisum sativum.* J. Vejle (J. Mortensen). *Trifolium pratense.* J. Marup by Skern (M. L. M.). *Medicago sativa.* J. Varde (M. L. M. 07). *Fuchsia* sp. S. Klampenborg. *Solanum lycopersicum.* S. Roskildevej (Koch).

Peronosporineae.

Berlese (1898) has given an excellent monograph of this group furnished with splendid pictures.

Cystopus.

31. **Cystopus lepigoni** de By., Syll. VII [236], Fisch. IV [420], Syn: Albugo lep. (de By.) Ktze (91).

June—Sept., concerning its fecundation see Ruhland (1903).

Lepigonum marinum. F. Fyenshoved; S. Flaskekroen; L. Rødbyfjord ($^{29}/_{7}$ 78). *Lepigonum salinum.* J. Hou!; F. Magaard; Thorseng; Thurø; S. Frederikssund, Charlottenlund; L. Lidsø (Exc. $^{4}/_{8}$ 84), Rødby ($^{29}/_{7}$ 78).

32. **Cystopus bliti** (Biv.) Lév. Syll. VII [236], Fisch. IV [422].

Amarantus retroflexus. Am. Kløvermarken $^{20}/_{9}$ 84 (H. M.).

33. **Cystopus candidus** Lév., Syll. VII [334], Fisch. IV [418], Syn: Uredo candida Pers., Schum. no 1576, Hvid Brandstøv (H. 37 [912]), Korsblomsternes Hvidrust (R 71 [79], 04 a [208] c. icon. & 02 a [21]), Lit: R 93 c [39] c. icon., Lind 10 k.

Very common, but to a different degree on the different host-plants; even within the limits of the same species of host-plants a difference as to the susceptability may be found; I have, for inst., seen fields of Roripa armoracia consisting of a mixture of two varieties; one variety was always affected the other not at all. Rostrup was of the same opinion (88 a [389]) as de Bary that the plants could only be infected on quite a young stadium, this has later on been confirmed from an other side (Eberhardt 04). A. Hansen (88) has noticed that one lot of cabbage-plants in their second year was quite destroyed by Cystopus while a second lot was not infected at all; the same case has been observed by me near Stege where this fungus completely prevented cultivation of Brassica oleracea for seeds; the owner told me that the groups of white conidia broke forth simultaneously on all plants every year in the beginning of August.

Melhus has recently (11) experimented with this species. He states that the leaves of the host are as susceptible to conidia of Cystopus as the cotyledons are. And also that there may exist more biological species of Cystopus candidus on the crucifers. It was not possible to infect more than 50 % of the cotyledons or leaves of Sinapis alba with conidia from Raphanus. And less than 1 per cent of the Brassica-plants inoculated became infected.

Closer observations of the biology of this fungus are badly wanted.

It may be found from May to October. The oldest specimen of the collection of Rostrup is from June 1861. It is curious that neither Rostrup nor anyoneelse has been able to find it in this country on Thlaspi arvense.

Draba incana. J. Løgstør! (Exc. 25/7 1910). *Cochlearia officinalis.* J. Løgstør!. *Berteroa incana.* F. Espe! Klingstrup. *Roripa armoracia.* (R 93 k [190]) common. *Camelina* linicola. F. Ringe!. *Capsella bursa pastoris* common. *Teesdalia nudicaulis.* J. Bustrup!, Bruunshaab!, Feldborg; F. Skaarupør; Thorseng, Bregninge; Falst. Bøtø. *Lepidium campestre.* S. Aamose, Øgaard!. *Lepidium perfoliatum.* Am. Klovermarken. *Coronopus Ruelii.* Am. Fælled; L. Nysted Gader; B. Svaneke (R 06 dd [372]). *Cardamine pratensis.* Am. (O. R.). *Conringia orientalis.* J. Dvergetved! S. Landbohøjskolens Have. *Turritis glabra.* F. Ringe!, Vejstrup Aaskov, Skaarup. *Arabis arenosa.* J. Vilsted by Løgstør!. *Arabis alpina.* S. Søllerød! Botanisk Have (E. W.). *Stenophragma thalianum.* F. Ringe! Klingstrup; S. Roskilde (C. Thomsen). *Alliaria officinalis.* J. Skive!. *Barbarea lyrata.* F. Dalum (Jak. Lge), Ringe!. *Sisymbrium officinale.* J. Silkeborg; F. Svendborg; S. Stavnsholt!, Masnedsund; Am. Klovermarken; B. (R 06 dd [372]). *Sisymbrium sinapistrum.* J. Aalborg (Uhrenholt); S. Gl. Kalkbrænderivej; Amager. *Sisym-*

brium sophia. Læsø!; S. Stavnsholt! (Exs. Sydow no 270), Flaskekroen, Roskilde, Masnedsund; B. Nexø (R 06 dd [372]). *Sisymbrium silvestre.* B. Aarsdal. *Brassica campestris, napus, oleracea* common in the gardens (R 88 n [41]). *Sinapis arvensis.* S. Frederiksholm, Damhuset; L. Stensgaard. *Sinapis alba.* J. Virklund. *Raphanus raphanistrum.* J. Sæby, Skive!; S. Helenes Kilde (R 99 a [256]); B. Rø. *Raphanus sativus.* S. København!, *Raphanus caudatus.* S. Landbohøjskolens Have. *Raphanus gayanus.* S. Botanisk Have (O. R.). *Cakile maritima.* J. Frederikshavn (V. S.).

34. **Cystopus cubicus** Lév., Syn: Cyst. tragopogonis Schroet. Syll. VII [334], Fisch. IV [421], Syn: Uredo tragopogi Pers., Albugo trag. (Pers.) Gray, Uredo scorzonerae Pers. Schum. no 1541, Cystopus spinulosus de By., Syll. VII [235], Schorzonerens Brandstøv (H 37 [908]), Kurvblomsternes Hvidrust (R 02 a [209] & 04 a [22]).

May be found in April—Oktober, but most common in June—August; is rarely sought in vain, common in gardens and fields.

Carduus crispus (hosp-nov.). J. Øster Teglgaard by Viborg (Gad). *Cirsium oleraceum.* F. Ryslinge! Vejstrup Aaskov. *Cirsium lanceolatum.* F. Skaarup. *Cirsium palustre.* J. Harrestrup; F. Skaarup, Bjørnemose. *Cirsium arvense.* J. Understed! Vosnæs; F. Bakkehuset, Klingstrup, Vejstrup Aaskov; S. Valby, Glostrup. *Centaurea scabiosa.* J. Aalborg (F. K. R.), Daugaard!; F. Bjørnemose; S. Odsherreds Klint, Landbohøjskolens Mark; Falst. Virket! (Exc. [24/6] 11). *Filago minima.* J. Viborg (Gad), Nørhule by Horsens (Jeppesen); F. Ryslinge!. *Filago arvensis.* J. Nørhule (Jeppesen); F. Ryslinge!, Bjørnemose; Thorseng Bregninge. *Filago germanica.* F. Ringe!, Skaarup (Exc. Thüm. mycot. No. 1919). *Gnaphalium uliginosum.* F. Klingstrup. *Artemisia vulgaris.* J. Skive!, Randers; F. Hamdrup (Jak. Lg.), Kværndrup, Trolleborg. *Chrysanthemum parthenium.* Fænø; F. Ø. Aaby, Holmdrup, Skaarup. *Inula salicina.* S. Flaskekroen (R 99 a [255]). *Scorzonera humilis.* J. St. Vildmose, Skive!; S. Jonstrup Vang. *Scorzonera hispanica* very common in the gardens. *Tragopogon pratensis.* J. Borrevold, Randers; F. Skaarup; S. Brede (Rützou), Landbohøjskolens Mark, Herlufsholm (O. R.); L. Stensgaard. *Tragopogon porrifolius.* F. Svendborg; Sj. Botanisk Have (E. W.), Stubberup; L. Christianssæde (Exc. [4/8] 84), Vesterborg; Falst. Stubbekøbing.

Phytophtora.

35. **Phytophtora omnivora** de By., Fisch. IV [412], Syn: Phyt. cactorum (Cohn & Lebert) Schroet., Syll. VII [238], Phyt. fagi Hartig, Kimbladskimmel (R 89 a [26] c. icon), Kimskimmel (R 04 a [21]).

Is is found on seed-plants of all species of Phanerogames especially during June—September, but also on full-grown plants (Cattleya and Helleborus), and if so it may be found in any season. Rostrup interested himself much in this fungus (R 80 a [168—170], 83 d [296—299] & 02 a [182]), which often causes great damage to the cultivated plants. In "Nordskoven" near Sorø 43575 young beech-plants destroyed by this fungus were rooted up. Rostrup considers it likely that a man may carry with him

the Oospores in the earth sticking to his boots. Mice may also spread infection.

Abies alba. J. Vindum Skov near Viborg (Gad). *Pinus montana*. J. Svinekløv (J. P. Bang). *Cattleya labiatae*. S. Holte (A. P. Lier). *Fagus silvatica* common, f. inst. J. Sofienlund (Rosenkrantz); F. Hofmansgave (Aug. 78), Brændeskov; S. Kongsøre (Kofoed), Farum Lillevang (Bonnevie), Sorø Nordskov (R. Leth), Thurebylund. *Helleborus niger*. S. Valby (N. Jensen).

36. **Phytophtora infestans** (Mont.) de By., Syll. VII [237], Fisch. IV [413], Syn: Peronospora inf. (Mont.) Caspary, Kartoffelsvampen (R 82 b [3], P. N. 73 a & 76 c, la Cour 67), Kartoffelfarsoten (R 71 [74—93]), Kartoffelskimmel (R 93 c c. icon. & 02 a [186], Lind & Ravn 10 [61] c. icon.), Lit: Ørsted 63 c c. fig., Dybdahl 76 a, R 94 i.

It is particularly found during the months of July to September; its propagation depends very much on the weather, in some summers (f. inst. 1911) it was hardly to be found; in other — more damp — summers it caused great damage f. inst. 1844, 88, 91, 94, 1903 & 07 (F. K. R. 09). It was first found in this country in 1841 (Fjeldstrup 44), but it was not until the years 1844 & 45 that it became conspicuous in this country as well as in other Evropean countries (see R 84 d & J. L. Jensen 87 a).

J. L. Jensen in particular deserves great credit for having studied its propagation and control; he recommanded a special hilling of the earth round the base of the plants to prevent the conidia from penetrating to the tubers. He wrote many treaties on this subject. These made a great sensation on account of their being the first attempts on a prevention of this scourge. Later on he also tried to desinfect the tubers by means of hot water (40 °) which attempt was quite successful, but this method is not of practical use. During the later years other preventatives have been used (see F. K. R. 10 a). Rostrup has requested the assistance of the legislators for prevention of the disease (R 92 c).

Solanum tuberosum common in gardens and fields. On forced potatoes in hotbeds it has been found as early as the end of March (J. Rosenvold Th. Jørgensen). *Solanum laciniatum*. S. Landbohøjskolens Have; L. Fuglsang (Thomsen). *Solanum lycopersicum*. F. Odense (Jak. Lge 88), Soro (Gram) and many other places. Most frequently only the fruits are affected, the leaves, however, may be so when the plant is not pruned, and the leaves have their natural shape and size. *Datura metel*. S. Landbohøjskolens Have (R 92 b [331] & 92 g [65]).

37. **Phytophtora syringae** Kleb. (09 c. icon), Syn: Phloeophtora syringae Kleb. (06 b.)

Common on *Syringa vulgaris* var. *cult.* both in J. and S. causing great damage in the nurseries (Lind 10 h).

Sclerospora.

38. **Sclerospora graminicola** (Sacc.) Schroet. 89 [236], Syll. VII [238], Fisch. IV [437], Syn: Peronospora setariae Pass., Skærmaksskimmel (R 04 a [17]), Lit: Ruhland 03.

Setaria viridis. F. Skaarupør ([25]/7 83).

Plasmopara.

39. **Plasmopara pygmaea** (Ung.) Schroet., Syll. VII [240], Fisch. IV [430], Syn: Peronospora pygmaea Unger, Anemoneskimmel (R 02 a [199] & 04 a [18]).

May-June. The mycelium is certainly perennial in the roots of the plant (Stewart 10 [353]).

Anemone nemorosa, very common, for instance F. Vejstrup Aaskov (R 79 [20]); B. Almindingen (Exc. [15]/5 11). *Anemone nemorosa* × *ranunculoides.* F. Vejstrup Aaskov. *Anemone ranunculoides.* F. Vejstrup Aaskov (R 79 [20]), Skaarup; S. Hammer! (Exs. Sydow no 263); B. Almindingen (Exc. [15]/5 1911). *Hepatica triloba.* S. Høve (Th. Leth).

40. **Plasmopara viticola** (Berk & Curt.) Berlese & de Toni, Syll. VII [239], Fisch. IV [435], Syn: Peronospora vitic. Caspary, Vinstokskimmel (R 02 a [199]). Lit: Anonym 83, Lind 09 c & 10.

Although it has been known in Europe since 1878 and was found in Norway 1892 (Wille 93) it was not found in Denmark until the last year of Rostrup's life; since then I have found it in four different places, every time in rather great abundance occupying every leaf of the affected vines. Each time it has disappeared again; it seems as if it is unable to hibernate in this country.

Vitis vinifera. J. Kolding!; F. Dalum (Jak. Lge); S. Landsgrav!; Falst. Nr. Alslev!, Hanenov Skovridergaard ([6]/9 06).

41. **Plasmopara pusilla** (de By.) Schroet., Syll. VII [241], Fisch. IV [428], Syn: Plasmopara geranii (Peck) Berlese & de Toni, Syll. VII [242].

July—Sept., in the leaves.

Geranium pratense. F. Øxendrup ([12]/7 80). *Geranium silvaticum.* B. Almindingen (R 06 dd [372].)

42. **Plasmopara obducens** Schroeter, Syll. VII [242], Fisch. IV [434], Balsamineskimmel (R 04 a [18]).

Impatiens noli tangere. F. Vejstrup Aaskov ([5]/5 80 Exs. Thümen Myc. No 1918), Skaarup.

43. **Plasmopara epilobii** (Otth.) Schroeter, Syll. VII [243] & XIV [460], Fisch. IV [434], Syn: Peronospora ep. Rabenh., Dueurtskimmel (R 04 a [19]).

Epilobium parviflorum. B. Almindingen ([12]/8 86).

44. **Plasmopara nivea** (Unger) Schroeter, Syll. VII [240], Fisch. IV [429], Syn: Peronospora nivea Unger, Skærmplanternes Bladskimmel (R 93 c [39]), Skærmplanteskimmel (R 02 a [198] & 04 a [19], Lind & Ravn 10 [74]).

Very common; may be found from May to Oct., is much favoured by the naked snails.

Sanicula europaea. F. Holmdrup. *Aegopodium podagraria* very common. *Apium graveolens* common in the gardens, Rostrup (02 a [199]) has found Oospores in the tubers. *Sium latifolium* common. *Conium maculatum* common. *Anthriscus silvester & cerefolium. Angelica silvestris* common. *Levisticum officinale.* F. Skaarup. *Pastinaca sativa, Selinum carvifolium.* S. Præstø!. *Peucedanum paludosum* J. Sæby; F. Kirkeby!, Skaarup; S. Gammelmose (R 06 cc [356]). *Daucus carota.* J. Dommerby! F. Skaarup. *Laserpitium latifolium.* S. Jonstrup Vang.

45. **Plasmopara densa** (Rabh.) Schroeter, Syll. VII [243], Fisch. IV [431], Syn: Peronospora densa Rabh., Skjallerskimmel (R 04 a [19]).

June—August, concerning its fecundation see Ruhland 03. Very common on all the below-mentioned host-plants:

Odontites simplex, Odontites rubra. L. Stensgaard (Aug. 1871), *Euphrasia officinalis, Euphrasia brevipila.* J. Astrup (E. W.), *Alectorolophus major & minor, Pedicularis palustris.* St. Vildmose.

Bremia.

46. **Bremia lactucae** Regel, Syll. VII [244], Fisch. IV [440], Syn: Peronospora lactucae Rostrup (04 a [21]), Peronospora gangliformis de By., Salatskimmel (R 02 a [200] & 04 a [21]).

Very common; may be found from May to Octob., most frequently, however, in July.

Lappa officinalis. F. Klingstrup; S. Lyngby!. *Lappa tomentosa.* S. Ørsløv (P. N.). *Lappa glabra.* F. Skaarup ([28/8] 71). *Cirsium arvense.* Skaarup, S. Svebølle!. *Cirsium oleraceum.* F. Skaarup. *Centaurea jacea.* F. Skaarup. *Centaurea cyanus.* J. Horsens!; F. Skaarup; L. Stensgaard. *Artemisia vulgaris.* J. Hjørring!. *Chrysanthemum segetum.* S. Lyngby! (hosp. nov., no parasitic fungus has hitherto been found an this common plant). *Senecio vulgaris* very common. *Lampsana communis.* J. Skive!; F. Skaarup and more other places; may easely by mistaken for Ramularia lampsanae Sacc. *Sonchus oleraceus.* J. Odden!; L. Stensgaard. *Hieracium aurantiacum.* S. Landbohøjskolens Have, Vestre Kirkegaard. *Hieracium pilosella* - *pratense.* F. Skaarup. *Hieracium rigidum.* J. Odden Skov!. *Hieracium danicum.* S. Ørsløv (P. N.). *Crepis tectorum.* F. Holmdrup; S. Jægersborg; L. Stensgaard. *Crepis paludosa.* J. Viborg!; F. Skaarup. *Taraxacum vulgare* (hosp. nov.). S. Lystrup! Bidstrup!. *Lactuca sativa* very common in the gardens (Dybdahl 77 [477]). *Lactuca alnifolia.* S. Landbohøjskolens Have. *Lactuca scariola.* S. Botanisk Have. *Leontodon auctumnalis.* J. Krabbesholm Skov!. *Picris hieracioides.* F. Vejstrup Aaskov. *Tragopogon porrifolius* (hosp. nov.). S. Koldemosegaard! Runddelen!.

Peronospora.

47. **Peronospora** Schleideni Unger, Syll. VII [257], Fisch. IV [474], Løgskimmel (R 02 a [206] & 04 a [17]).

May—August, common in the gardens.

Allium cepa. S. Landbohøjskolens Have; Falst. Stubbekøbing ([2]/8 76 R 81 a [93]). *Allium ascalonicum.* F. Faaborg (R 87 f); S. Landbohøjskolens Have, Haslev!, Koldemosegaard, Ørsløv (P. N.).

48. **Peronospora urticae** (Lib.) de By., Syll. VII [257], Fisch. IV [473], Nældeskimmel (R 04 a [17]).

June—August.

Urtica urens Læsø!, J. St. Vildmose ([24]/6 83), Bering near Aarhus (Jak. Lge); Lang. Carlseje.

49. **Peronospora rumicis** Cda., Syll. VII [262], Fisch. IV [480], Syreskimmel (R 02 a [207]), Skræppeskimmel (R 04 a [17]), Lit: R 85 a.

May—August. The mycelium is perennial in the subterraneous parts of the host-plant.

Rumex acetosa common f. inst.: J. St. Vildmose, Skive!, F. Klingstrup, Skaarup ([13]/6 73); Lang. Carlseje; S. Rørvig, Lyngby Mose (F. K. R.). *Rumex acetosella.* F. Vejstrup Aaskov. *Rumex auriculatus.* J. Dybdal, Bygholm! F. Ringe!, Nyborg, Kirkeby.

50. **Peronospora polygoni** Thüm., Fisch. IV [481], Pileurtskimmel (R 04 a [17]).

May—Sept., quite common. Saccardo (Syll. VII [256]) will unite this species with Peronospora farinosa.

Polygonum aviculare. J. Aalborg (F. K. R.), Skive!; F. Skaarup ([11]/6 78); S. Søborg. *Polygonum convolvulus.* F. Ryslinge!; S. Ruderhegn!.

51. **Peronospora alsinearum** Caspary, Syll. VII [246], Fisch. IV [452], Fladstjerneskimmel (R 04 a [17]).

It is common in May and June; may, however, be found even from March till October. Its mycelium is perennial in the host-plant. The form on Ammodenia has several times been considered as a special variety: "form. halianthi" Eriks. (in Fungi parasitici scand. exsicc. No. 96. 1883) and "var. honckenyae" Sydow (in Hedwigia 1900 p. 124, Syll. XVI [397]), in his herbarium Rostrup also calls it "Per. halianthi". Concerning its fecundation see Ruhland (03).

Cerastium semidecandrum. F. Broholm, Skovmøllen ved Skaarup, Bjørnemose. *Cerastium caespitosum.* J. St. Vildmose, Skive!; F. Egeskov, Holmdrup, Tiselholt; S. Tisvilde, Ledreborg ([26]/5 72 C. Thomsen). *Cerastium arvense.* S. Frederikssund!. *Ammodenia peploides.* J. Nykøbing (C. H. O.), Skive!; F. Hals, Nyborg (Joh. Lge), Stokkebæk Strand ([12]/7 77), Magaard; F. Bøtø. *Stellaria holostea.* J. Sevel!. *Stellaria nemorum.* J. Skanderborg. *Stellaria media* very

common f. inst.: J. Gaardbogaard; F. Vejstrupgaard (July 61); S. Gammelmose, Charlottenlund, Emdrup, Hammer!; Møen Liselund. *Scleranthus annuus*, common. *Lepigonum campestris*. S. Frederiksværk, Geelskov. *Lepigonum salinum*. Thorseng; S. Præstø!, L. Lidsø (Exc. 4/8 84).

52. **Peronospora arenariae** (Berk.) de By., Syll. VII [247], Fisch. IV [449]; Sandvaanerskimmel (R 04 a [17]).

April—June, common.

Moerhingia trinervia. F. Kværndrup, Skaarup; S. Boserup (C. Thomsen). *Arenaria serpyllifolia*. F. Nyborg!, Holmdrup (2/6 73).

53. **Peronospora obovata** Bon., Syll. VII [252], Fisch. IV [457], Spergelens Bladskimmel (R 93 c [39]), Spergelskimmel (R 02 a [207] & 04 a [17]).

On stems and leaves of *Spergula arvensis*, very common in June—Octob.

54. **Peronospora dianthi** de By., Syll. VII [247], Fisch. IV [449], Nellikeskimmel (R 04 a [17]).

June—Sept.

Agrostemma githago. J. Skive!, Viborg!; S. Ballerup, Landbohøjskolens Mark, Ørsløv (9/7 79 P. N.), Nysø, Hammer (Jak. Lge.). *Melandrium album*. F. Vejstrup Aaskov. *Melandrium rubrum*. F. Vejstrup Aaskov. *Silene vinosa*. S. Vallensbæk Mose.

55. **Peronospora farinosa** (Fries) Keiszler, Syn: Botrytis farinosa Fries S. M. III [404], Per. effusa (Grev) Rbh., Syll. VII [256], Fisch. IV [467], Spinatskimmel (R 02 a [207] & 04 a [17]), Lit: Zahlbruckner II [229] (nomenclature).

June—September, common on the leaves of many species of Chenopodiaceae.

Chenopodium polyspermum. F. Skaarup, L. Stensgaard. *Chenopodium bonus Henricus*. F. Hesselager; Thorseng, Bregninge; G. Jungshoved. *Chenopodium hybridum*. F. Odense. *Chenopodium album*. J. Dvergetved (V. S.), Frederikshavn (M. L. M); F. Skaarup (3/6 70); S. Vesterfælled, Roskilde. *Chenopodium glaucum*. J. Aarhus!. *Spinacia oleracea*. J. Skive!; F. Odense; S. Snedinge (P. N.), Frederiksberg; Falst. Stubbekøbing. *Atriplex hortense f. sanguinea*. S. Landbohøjskolens Have. *Atriplex litorale*. F. Lundeborg. *Atriplex patulum*. L. Pederstrup, Stensgaard; Falst. Stubbekøbing. *Atriplex hastatum*. J. Aalborg (F. K. R.). F. Hofmansgave.

56. **Peronospora Schachtii** Fuckel, Syll. IV [262], Fisch. IV [459], Syn: Per. betae (P. N. 74 a [302]), Bedens Bladskimmel (R 93 c [35] & 04 b [408]), Bedeskimmel (R 02 a [203] c. icon & 04 a [17]).

Rostrup records (94 e) that it hibernates in the bud of the mangolds (Beta vulgaris rapifera) which are stored in a pit during winter to be planted again the following spring for the cultivation of seed (see also F. K. R. 07 a [303]). It may be found on the new leaves in May (R 78).

P. Nielsen mentions it (74 a [302]) as an enemy which has not yet made its way into this country. It was first found in this country on wild Beta in the Isle of Samsø and on cultivated Beta near Roskilde 1888 (R 89 j [746]).

Beta maritima. Samsø Koldby Kaas (Exc. [26]/7 87); Lang. Bagenkop (C. H. O.); S. Refsnæs & Saltbæk (Exc. [16—17]/6 00 see E. W. 06), Landbohøjskolens Have. *Beta vulgaris rapifera*. S. Rødevejrmøllegaard ([5]/10 88 Helweg), Tranderupgaard (Chr. Jespersen), Tystofte (P. N.); L. Nakskov (F. K. R.), common in the seed-growing parts of the country.

57. **Peronospora ficariae** Tul., Syll. VII [251], Fisch. IV [472], Ranunkelskimmel (R 04 a [18]).

The mycelium of the fungus penetrates the whole of the host-plant; it is common early in the spring (March—April) and will never be looked for in vain in stocks of Ranunculus ficaria, repens etc.

Ranunculus lingua. J. Skive!. *Ranunculus flammula*. J. St. Vildmose, Klitmøller. *Ranunculus acer*. F. Skaarup; B. Hammershus. *Ranunculus lanuginosus*. J. Boller. *Ranunculus repens*. J. Skive! F. Brændeskov, Skaarup (May 74) and many other places. *Ranunculus bulbosus*. S. Vasebækgaard (M. L. M.). *Ranunculus ficaria* common. *Myosurus minimus* (Per. myosuri Fuck.). J. Viborg!.

58. **Peronospora pulveracea** Fuck., Syll. VII [261], Fisch. IV [482], Nyserodskimmel (R 02 a [207] & 04 a [19]).

It is much like the preceding one in its manner of development; the leaves of the affected plants grow small and scrubby, the whole of their under-side covered by the conidiophora of the fungus, they are unable to blossom. It is not rare in nurseries and causes much damage there. (R 02 m & 03 g). May be found from May to September.

Helleborus viridis. J. Viborg!, Aarhus ([3]/5 94 Weber see R 96 m [126]), Bygholm (Chr. Jensen), Fredericia.

59. **Peronospora arborescens** (Berk.) de By., Syll. VII [251], Fisch. IV [463], Valmueskimmel (R 02 a [207] & 04 a [18]).

April—October.

Papaver somniferum. S. Landsgrav (H. Knudsen). *Papaver rhoeas*. F. Ringe!, Nyborg; S. Skelskør (Exc. [22]/6 07). *Papaver dubium* & *argemone* very common.

60. **Peronospora affinis** Rossm., Syll. VII [251], Fisch. IV [465], Jordrøgskimmel (R 04 a [18]).

The mycelium of the fungus penetrates the whole of the host-plant or parts of it. The affected plants are lower in growth, more ramified, and have a tendency towards forming witches-brooms (R 85 a).

June—September.

Fumaria officinalis. J. Viborg!; F. Skaarup; S. Lyngby, Øresundshøj, Charlottenlund (O. R.), Ørsløv (June 75 P. N.); L. Stensgaard (O. R.).

61. **Peronospora corydallis**, de By., Syll. VII [250], Fisch. IV [478], Syn: Per. bulbocapni Beck, Syll. VII [263], Lærkesporeskimmel (R 04 a [18]).

A. Fischer unites Per. corydallis and bulbocapni while Saccardo considers them separately. F. Bubak has subjected them to a renewed examination (03) and considers them well separated species, while O. Jaap (10 [2]) again will unite them. I have examined the material in hand, but I can find no constant differences between the two supposed separate species, the length of the conidies of all the specimens examined varies between 20 and 28 μ and their width between 15 and 24 μ. Rostrup (04) even unites them with Per. affinis.

Corydallis cava. F. Bjørnemose, Vejstrup Aaskov ([13]/5 71), V. Skerninge (Jak. Lge); S. Lellinge (C. H. O.), Næsbyholm, Hammer!, Oringe (Gad); B. Svaneke (Exc. [15]/5 11). *Corydallis intermedia*. J. Krabbesholm Skov!, F. Klingstrup, Vejstrup Aaskov, Skaarup. S. Ermelunden (O. R.). *Corydallis pumila*. S. Charlottenlund ([15]/4 84 and again [7]/5 96).

62. **Peronospora parasitica** (Fries) Tulasne, Syn: Botrytis parasitica Fries S. M. III [403], Korsblomsternes Bladskimmel (R 93 c [38]), Korsblomstskimmel (R 02 a [203] & 04 a [18]).

Its attack often causes some deformation of the host-plant especially of Matthiola and Cheiranthus. Rostrup also records (85 a) a single specimen of Erophila verna which was so stimulated by the attack of the fungus that it produced 70 flowers.

The fungus also causes damage to the gardens by affecting the seedlings of Brassica. It may be found almost all the year round, often in company with Cystopus candidus.

Erophila verna common. *Cochlearia danica*. F. Magaard. *Roripa armoracia* common. *Camelina linicola*. J. Sahl (Th. Leth), Thorsager; S. Lyngby (M. L. M.); L. Stensgaard. *Capsella bursa pastoris* common. *Lepidium ruderale*. S. Masnedsund. *Cardamine amara*. J. Viborg!; F. Skaarup. *Dentaria bulbifera*. J. Skovsgaard by Viborg!, Kalø Hestehave (J. Christensen Hygum); F. Bjørnemose; Møens Klint ([21]/5 97 C. H. O., May 99 Ferdinand, [12]/6 09!); B. Gudhjem (Exc. [15]/5 11). *Turritis glabra*. F. Skaarupør; S. Hammer!. *Arabis hirsuta* (hosp. nov.). J. Vivebrogaard!. *Stenophragma thalianum*. F. Skaarup, Svenborg. *Alliaria officinalis*. F. Vejstrup Aaskov. *Barbarea lyrata*. F. Ringe!. *Erysimum Cheiranthoides*. F. Lammehave. *Sisymbrium officinale*. J. Skive!, Fannerupgaard; S. København. *Brassica campestris*. J. Mariager; Samsø; S. København. *Brassica napus*. J. Sevel; F. Magaard; S. Landbohøjskolens Mark. *Brassica oleracea* common. (R 81 a [94] & 98 p). *Sinapis alba*. S. Lyngby (M. L. M.). *Sinapis arvensis*. S. Damhuset; L. Stensgaard. *Cheiranthus cheiri*. J. Aarhus (Vilh. Petersen); S. København!. *Matthiola annua*. S. København, Glostrup; L. Nakskov. *Raphanus sativus*. S. København; Amager.

63. **Peronospora crispula** Fuck., Syll. VII [250].

Is considered by A. Fischer to be identical with the preceding species. May—August.

Reseda luteola. F. Svenborg; L. Nørregaard ([10]/8 77); B. Svaneke (R 06 dd [372]).

64. **Peronospora violae** de By., Syll. VII [251], Fisch. IV [461], Violskimmel (R 04 a [18]).

May—October, rare.

Viola tricolor arvensis. J. Viborg!; F. Dalum (Jak. Lge).

65. **Peronospora lini** Schroet., Fisch. IV [451], Syn: Per. lini Ellis & Kellerm. Syll. IX [344], Hørskimmel (R 04 a [18]).

The conidiophora of this species does not — as is the case with the other species of Peronospora — form thick clusters, but they appear somewhat isolated on the stalks and the leaves; therefore the fungus is very inconspicuous and — as far as I can ascertain — it has only been noticed twice in Evrope (by Schroeter near Rastatt in Baden (76 [134]) and by me) and once in Kansas, U. S. A.

Linum catharticum. F. Ringe (! 3/8 97).

66. **Peronospora conglomerata** Fuck. Syll. VII [252], Fisch. IV [475]. Storkenæbskimmel (R 04 a [18]).

Rostrup (85 a) has noticed that the affected plants get longer petioles and infundibuliformed leaves. April—June.

Geranium pusillum. F. Skaarup (2/6 83 Exc. Thüm. Myc. no 2217); S. Lyngby!. *Geranium columbinum.* F. Holmdrup. *Geranium molle.* J. Viborg!; F. Brudager (14/6 73); S. Dronninggaard (F. K. R.). *Erodium cicutarium* (Per. erodii Fuckel). J. Hald by Viborg!.

67. **Peronospora chrysosplenii** Fuck., Syll. VII [253], Fisch. IV [464], Milturtskimmel (R 04 a [18]).

April—May.

Chrysosplenium alternifolium. J. Krabbesholm Skov!, Lee Skov!; F. Klingstrup (1/5 70); B. Bobbeaa (Exc. 15/5 11).

68. **Peronospora sparsa** Berk., Syll. VII [263], Fisch. IV [464], Rosens Bladskimmel (R 96 c), Rosenskimmel (R 04 a [19]), Lit: R 84 i, 98 g, 00 h, 02 k.

It is only found on cultivated roses in hot-houses, which fact is quite in accordance with the supposition that it originates from India (R 88 n [43]); Rostrup has described the oospores (02 a [201]) which he found in May 1900 and which have apparently been found nowhere-else before; they are 30—34 μ in diameter, yellow and surrounded by a brown, stratified and folded wall 6—7 μ thick. The fungus which has been known in England since 1862 and found in Germany 1876 (Wittmack 77) was first noticed in Denmark in May 1884 (R 94 h).

Rosa indica culta. J. Aalborg, Ringkøbing, Hobro, Horsens; F. Odense (8/5 84); S. Søborg, Vanløse etc.

69. **Peronospora rubi** Rabenh., Syll. VII [263], Brombærskimmel (R 04 a [19]).

Is considered by A. Fischer (IV [473]) to be identical with Per. potentillae de By.

Rubus fruticosus. S. Fredensborg ($^{1}/_{9}$ 94 & $^{30}/_{8}$ 95 see R 96 m [126]).

70. **Peronospora potentillae** de By., Syll. VII [253], Fisch. IV [473], Potentilskimmel (R 04 a [19]).

May—October, rare.

Potentilla reptans. S. Slagelse!. *Geum urbanum.* J. Knivholt Skov!. *Alchimilla vulgaris* (= Peronospora alchimillae Otth. Syll. XIV [458]), is most frequently found in company with Uromyces alchimillae. Jonstrup, Charlottenlund (Oct. 88 Joh. Lange, again $^{25}/_{5}$ 11!). *Alchimilla alpestris.* S. Jægersborg!. *Agrimonia eupatoria.* S. Snedinge (74) & Ørsløv (P. N.).

71. **Peronospora viciae** (Berk.) de By., Syll. VII [245], Fisch. IV [454], Vikkens Bladskimmel (R 93 c [38]), Vikkeskimmel (R 02 a [205] c. icon & 04 a [19], Lind & Ravn 10 [72]).

May—August.

Ornithopus perpusillus. J. Flyndersø!; F. Knarreborg; Thorseng Bregninge. *Vicia hirsuta.* F. Holmdrup; S. Fredensborg, Espe (F. K. R.). *Vicia tetrasperma.* L. Sundby, Christianssæde Skov. *Vicia cracca.* J. Skive!; L. Lidsø. *Vicia villosa.* S. Lyngby (M. L. M.), Næstved (F. K. R.) etc. *Vicia sepium.* J. Krabbesholm Skov!; F. Vejstrup Aaskov. *Vicia sativa.* F. Vejstrup Aaskov; L. Vesterborg. *Vicia angustifolia.* J. Skive!, Viborg!. *Vicia lathyroides.* J. Skive!. *Pisum sativum.* Common in the gardens. J. F. (Skaarup $^{13}/_{6}$ 71), S. L. etc. *Pisum arvense.* J. Tylstrup!. *Lathyrus pratensis.* F. Klingstrup. *Lathyrus silvester.* J. Horsens!, F. Vejstrup Aaskov, Trolleborg; S. Vejenbrød (R. Fejlberg); L. Grønnegade. *Orobus tuberosus.* J. Viborg!; S. Brede. *Orobus niger.* F. Svenborg.

72. **Peronospora trifoliorum** de By., Syll. VII [252], Fisch. IV [457], Kløverens Bladskimmel (R 93 c [37] c. icon). Kløverskimmel (R 02 a [205] c. icon & 04 a [19]).

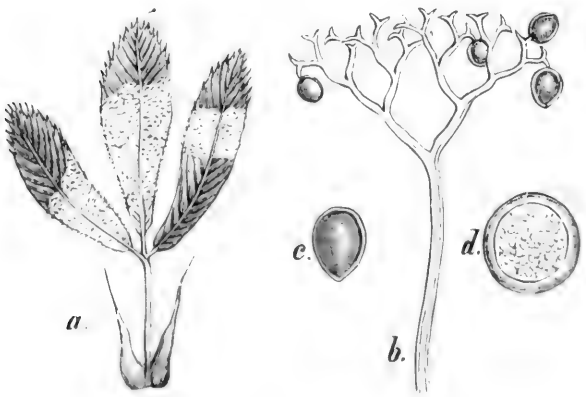


Fig. 2.
a, Leaf of Medicago sativa with Peronospora trifoliorum. b, conidiophore with conidia. c, a single conidium $\frac{500}{1}$. d, oospore $\frac{500}{1}$.

Rostrup has observed that the disease attacks plants, grown from seeds of foreign origin (America) more than plants from home-cultured seeds, particularly as far as concerns Medicago sativa (R 86 d [317] & 94 e). Rostrup has found oospores in its hollow rhizome.

Melilotus officinalis. F. Bjørnemose; Falst. Korselitse. *Trifolium procumbens.* S. Tisvilde Hegn. *Trifolium minus.* J. Skive!. *Trifolium repens.* Common f. inst. Skaarup [10/6] 70. *Trifolium hybridum* f. inst. Ørsløv (P. N.). *Trifolium arvense.* F. Ulkendal; S. Rørvig, Tisvilde Havstok. *Trifolium striatum.* J. Skive!, Fredericia Vold (Jak. Lge). *Trifolium incarnatum.* S. Ørsløv (P. N.). *Trifolium pratense* common (Rostrup has found the attack of the fungus often causing the affected plants to form several quartered or quinquepartite leaves). *Trifolium medium* common. *Trifolium alpestre.* S. Jonstrup Vang. *Medicago sativa* common. (M. L. M. 07 [132]). *Medicago lupulina.* S. København. *Lotus corniculatus.* J. Skagen (Exc. [17/7] 96), Gaardbogaard; S. Ruderhegn (C. H. O.). *Lotus uliginosus.* J. Viborg!.

73. **Peronospora ononidis** Wilson 10 [186].

The form on Ononis is by Rostrup (in herbario) called Peronospora ononidis R., but in Thümens Mycot. No. 616 it is called Per. viciae and Fischer calls it Per. trifoliorum.

Ononis spinosa. F. Skaarup (June 76 Exs. Thümen mycot No. 616), Svenborg ([20/6] 72). *Ononis repens.* J. Nibe!, Knudby!; F. Klingstrup; S. Frederikssund!.

74. **Peronospora cytisi** Rostrup (92 j & p), Syn: Per. cytisi Magnus (Hedwigia 1892 [149]), Syll. XI [243], Per. trifoliorum de By. form. laburni vulgaris Voss in Thüm. Mycot. No. 2219, Guldregnskimmel (R 02 a [202] & R 04 a [19]).

At the same time as Rostrup O. Kirchner (92) found it in Würtemberg and P. Magnus in France (P. Mg. 93); about 10 years before W. Voss found it in Laibach in Austria; Rostrup was, however, the first to denominate and describe it. It has been found several times in nurseries on about 10 species of cultivated Cytisus, particularly affecting the young plants which will quickly be killed by it (R 92 j [60]). June—August.

The colour of the clusters of the fungus is ash-grey on the underside of the leaves, the corresponding spots on the upperside are brown.

The conidiophores are regu-

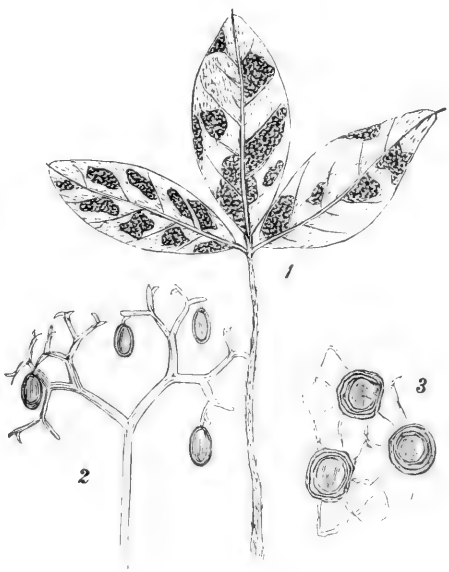


Fig. 3.
1, Leaf of Cytisus laburnum with Peronospora cytisi Rostrup. 2, conidiophore with conidia. 3, oospores. From R. 02 a.

larly 4—5 times furcated, at the end of each branch an elliptical, pale-brown conidie is laced off. The conidies measure 20—28 μ × 15—20 μ. In the cellular tissue are found numerous oospores 35—38 μ in diameter, the wall is 7—8 μ thick.

Cytisus laburnum. J. Viborg!; S. Roskilde (1888 J. Buch), København (O. R. & !).

75. **Peronospora candida** Fuckel, Syll. VII [258], Fisch. IV [465], Syn: Per. oerteliana Kühn, Syll. IX [342], Kodriverskimmel (R 04 a [19]).

The mycelium is perennial in the subterrannean parts of the host-plant and affects all leaves of the diseased plants. May.

Primula elatior. F. Hjallese ([27]/5 97. Jak. Lge. see R 99 a [255]), S. Haslev Orned! (Exs. Sydow).

76. **Peronospora myosotidis** de By., Syll. VII [245], Fisch. IV [453], Forglemmigejskimmel (R 04 a [20]), April—July, common on the leaves of Myosotis, f. inst. noticed from following places:

Lithospermum arvense. S. Lundby (Jak. Lge). *Myosotis arenaria.* S. Bognæs. *Myosotis versicolor.* J. Viborg!, S. Lyngby (M. L. M.). *Myosotis silvatica.* F. Ringe!; S. København. *Myosotis arvensis.* F. Klingstrup ([7]/9 80); S. Charlottenlund.

77. **Peronospora asperuginis** Schroet., Syll. VII [248], Fisch. IV [448]. June—July.

Asperugo procumbens. F. Hundrup (Jak. Lge); S. Søborg (Exc. [14]/6 84), Hammer!.

78. **Peronospora sordida** Berk., Syll. VII [262], Fisch. IV [481], Brunrodskimmel (R 04 a [20]).

This species is, according to Berlese (98), very closely related to the two succeeding ones. It occurs in July—October as small spots on the leaves and may prevent the affected plants from putting forth flowers (R 85 a). The form on Verbascum was originally considered a subspecies by Rostrup (R 79 [24]), and he published it in Thüm. myc. under the name of Peronospora sordida f. verbasci thapsi.

Verbascum thapsus. F. Vejstrup Aaskov ([9]/6 77 and again June 83, Exs. Thüm. Myc. No. 2216); Lang. Carlseje; L. Hillested. *Scrophularia nodosa.* J. Marsvinslund!; F. Bjørnemose ([14]/9 74); S. Ruderhegn!, Basnæs (P. N.), Hammer!; L. Sollested.

79. **Peronospora antirrhini** Schroeter, Syll. VII [255], Fisch. IV [469]. *Antirrhinum orontium.* F. Dalum ([13]/7 80 Jak. Lge).

80. **Peronospora linariae** Fuckel, Syll. VII [255], Fisch. IV [471], Torskemundskimmel (R 04 a [20]).

The mycelium penetrates the whole of the top of the plant which becomes conspicuously tumourous and whitish in appearance. June—August.

Linaria minor. L. Stensgaard, Rødby (S. C. Petersen). *Linaria vulgaris.* J. Tylstrup!, Hald near Viborg; F. Tiselholt Strand; Lang. Carlseje; S. Masnedsund ($^{12}/_{8}$ 77); Møens Klint.

81. **Peronospora grisea** (Unger) de By., Syll. VII [255], Fisch. IV [470], Ærenprisskimmel (R 04 a [20]).

April—September, very common, is never sought in vain.

Veronica hederifolia. J., F., S. etc. *Veronica arvensis.* J. Kvols!; F. Skaarup. *Veronica serpyllifolia.* J., F. Skaarup ($^{5}/_{5}$ 72). S. etc. *Veronica officinalis* common. *Veronica scutellata.* F. Svendborg. *Veronica beccabunga* very common.

82. **Peronospora alta** Fuckel, Syll. VII [262], Fisch. IV [483], Vejbredskimmel (R 04 a [20]).

Common, April—July, on the leaves of Plantago major.

83. **Peronospora lamii** A. Braun, Syll. VII [256], Fisch. IV [462], Læbeblomstskimmel (R 04 a [20]).

May—August, common.

Stachys paluster. J. Rimmen!, Viborg!; F. Skaarup. *Lamium album.* J. Skive!. *Lamium purpureum.* J. Skive!; F. Skaarup ($^{25}/_{7}$ 70). *Lamium dissectum.* S. Ørsløv (P. N.). *Lamium amplexicaule.* J. Rudbjerg!; F. Skaarup; S. Bidstrup!, Frederiksholm. *Calamintha acinos.* S. Hornsherred, Arresødal.

84. **Peronospora stigmaticola** Raunkiær (93 [108]).

It is only found in the flowers of the host-plant and is certainly spread by means of the bees. Outside this single growing place it has, to my knowledge, been found only once, viz at Pilshult near Helsingborg by Lagerheim (see Vgr. 99 [160]). It is mentioned neither by Saccardo nor by Fischer.

Mentha aquatica. J. Varde (Raunkiær).

85. **Peronospora chlorae** de Bary, Syll. VII [247], Fisch. IV [451].

June—July on the leaves. Per. gentianae found by Rostrup (83 b) in Sweden 1882 on leaves of Gentiana campestris is by Fischer classified under this species.

Erythraea centaureum. J. Uggerby Klit!; F. Akkerup!; S. Skelskør.

86. **Peronospora phyteumatis** Fuckel, Syll. VII [255], Fisch. IV [462], Rapuntselskimmel (R 04 a [20]).

Phyteuma spicatum. J. Klokkedalen near Boller ($^{26}/_{5}$ 85 again $^{24}/_{5}$ 02!).

87. **Peronospora calotheca** de Bary, Syll. VII [245], Fisch. IV [450], Snerreskimmel (R 04 a [20]).

April—June, common.

Sherardia arvensis. J. Bygholm!; F. Klingstrup, Magaard; S. Tystofte!. *Asperula odorata* very common. J., F., Thorseng, S., Møen etc. *Galium aparine.* F. Ringe!; S. Frederikssund, København. *Galium uliginosum.* Møens Klint!

(Lind 09). *Galium palustre.* S. Lindholm!. *Galium mollugo.* J. Bygholm!; Møens Klint (09). *Galium verum.* S. Frederikssund. *Galium boreale.* S. Jonstrup Vang.

88. **Peronospora valerianellae** Fuckel, Syll. VII [253], Fisch. IV [466], Vaarsalatskimmel (R 04 a [20]).

May—June.

Valerianella olitoria. F. Skaarupøre Strand ($^{3}/_{6}$ 73), Højstrup Strand (O. R.); S. Ørsløv (P. N.). *Valerianella Morisonii.* F. Ryslinge!.

89. **Peronospora valerianae** Trail, Syll. IX [344].

Seems to be very rare, hitherto only found in Scotland and Denmark which is very curious as the host-plant is rather widely spread.

Valeriana sambucifolia. J. Flade! ($^{27}/_{7}$ 06).

90. **Peronospora dipsaci** Tulasne, Syll. VII [258], Fisch. IV [460], Kartebolleskimmel (R 04 a [20]).

Dipsacus silvester. L. Abed, Vesterskov, Nakskov, Ringsebølle ($^{29}/_{7}$ 78).

91. **Peronospora violacea** Berkeley, Syll. VII [254], Fisch. IV [456], Skabioseskimmel (R 04 a [20]).

The mycelium penetrates the whole plant and transforms its flowers making all its stamens like the petals ("Petalodi"); the transformed plants have been considered a special variety "Knautia arvensis var. campestris".

May to August.

Scabiosa columbaria. Falst. Grønsund; Møens Klint. *Succisa praemorsa.* J. Raabjerg, Sæby; Fænø; S. Brede Bakke. *Knautia arvensis.* J. Aalborg Signalbakke, Nebsager (O. R.), Vejle; Samsø Hjortholm; F. Korinth, Hesselager, Lundborg, Holmdrup ($^{1}/_{7}$ 65), Skaarup; S. Brede Bakke (Kjærskov).

92. **Peronospora knautiae** Fuckel, Syll. VII [263], Fish. IV [461].

In the leaves of *Knautia arvensis.* S. Rungsted (R 99 a [255]), Ørsløv (P. N.), Hammer (Jak. Lge).

93. **Peronospora leptosperma** de Bary, Syll. VII [254], Fisch. IV [455], Renfaneskimmel (R 04 a [30]).

May—September, in the leaves.

Artemisia vulgaris (hosp. nov.). J. Skive! (Exs. Sydow. Phycom. no 253). *Tanacetum vulgare.* F. Ringe!, Skaarup ($^{28}/_{5}$ 70); S. Soborg (Exc. $^{14}/_{6}$ 84), Møens Klint (Lind 09). *Anthemis arvensis.* F. Brudager; S. Lyngby (M. L. M.), Ørsløv (P. N.). *Matricaria inodora.* J. Skive!; S. Flaskekroen; L. Stensgaard. *Matricaria chamomilla.* S. Ragnasminde (F. K. R.).

94. **Peronospora radii** de Bary, Syll. VII [254], Fisch. IV [458], Straaleblomstskimmel (R 04 a [20]), Lit: R 85 a & 92 g [66].

In the heads which often get only lingulate corols by the attack of

the fungus: "forma plena". July to August, sometimes in October as well.

Chrysanthemum leucanthemum. S. Hammer (Jak. Lge). *Matricaria inodora.* J. Aggersund, Ugelbølle, Tølle, Grenaa (Exc. $^{2}/_{8}$ 92), Nebsager (O. R.), Horsens, Juelsminde, Vejle; F. Strib (Exc. $^{13}/_{7}$ 72), Tiselholt Strand; S. Korsør; L. Knuthenborg; Falst. Stubbekøbing.

Mucorineae.

Mucor.

95. **Mucor Ramannianus** A. Møller, Hagem 08 [20] c. icon.
In earth from the Jutland callunetum. J. Vroue, Holt & Glusted (O. R.).

96. **Mucor mucedo** Fries S. M. III [320], Syll. VIII [191], Fisch. IV [187], Fl. D. tab. 467, fig. 4, Almindelig Skimmel (H 37 [896], R 04 a [14]), Lit: O. F. Müller 1767 [228], E. W. 81 [401], Kløcker 06 [160] c. icon.
Very common on bread, paste, fruits etc., on manure (Hansen 76 [340]), on dead seeds in germinating apparatus (O. R.) and in the air (Hansen 82 & O. R. 08).

97. **Mucor mucerdae** (Fries)!, Syn: Clavaria muc. Schum. No 2021, Stilbum muc. Hornem. Fl. D. tab. 1852 fig. III, Hydrophora mucerdae Fries S. M. III [315] (see Hansen 76 [226]), Mucor pygmaeus (Link) Fries S. M. III [319], Syll. VII [200], Mucor florae Cda., Syll. VII [200], Mucor racemosus Fresenius, Syll. VII [192], Fisch. IV [192], Grenet Skimmel (R 04 a [14]).
Common on all decaying substances whatever, especially on prunes (Kløcker 06 [162] c. fig.), found also on manure of mammals (Hansen 76 [340]) and on dead seeds in germinating apparatus (O. R.). Its spores have been found in the air by Hansen (82) and by O. Rostrup (08).

98. **Mucor circinelloides** van Tieghem, Syll. VII [201], Fisch. IV [204].
In earth from the Jutland callunetum, J. Vroue & Glusted (O. R.).

99. **Mucor plumbeus** Bonorden 64, Lendner 08 [90], Syn: Muc. spinosus van Tiegh. 76, Syll. VII [191], Fisch. IV [203], Kløcker 06 [164].
Found in the air in Copenhagen (O. R. 08) and — rarely — on dead seeds in germinating apparatus (O. R.).

Zygorhynchus.

100. **Zygorhynchus Moelleri** P. Vuillem., Hagem. 08 [47] c. icon.
In earth from the Jutland callunetum. J. Glusted (O. R.).

Phycomyces.

101. **Phycomyces nitens** Fries S. M. III [309], Syll. VII [205], Fisch. IV [218].
Not identical with Phyc. splendens Fries S. M. III [308] as maintained by Fischer, see Lendner (08 [109]).
Noticed from København (O. R. and W. Johannsen), cultivated.

Sporodinia.

102. **Sporodinia megalocarpus** (Fries)!, Syn: Syzygites megalocarpus Fries S. M. III [329], Spor. grandis Link, Fisch. IV [224], Spor. aspergillus (Scop.) Schroeter, Syll. VII [207], Azygites Mougeottii Fries S. M. III [330], Aspergillus maximus Fries S. M. III [387].
Agaricus sp. S. Charlottenlund (C. Christensen). *Hygrophorus* S. Fredensborg. *Lepiota procera*. S. Tisvilde. *Lepiota rhacodes*. S. Køge Aas (Exc. 4/10 09). *Boletus*. S. Fredensborg (Sept. 86. O. R.), Storeklint. Also on filtering paper in germinating apparatus (O. R.).

Rhizopus.

103. **Rhizopus stolonifer** (Fries)!, Syn: Mucor stolonifer. Fries S. M. III [321], Rhiz. nigricans Ehrb 1818, Syll. VII [212], Fisch. IV [230], Ascophora mucedo Fries S. M. III [310], Muc. clavatus Link, Fries S. M. III [321], Muc. agaricinus (Wallr.) Berlese, Syll. VII [203], Muc. fuliginosus (Bon.) Berlese, Syll. VII [198], Muc. nigropunctatus Berl., Syll. VII [202], Muc. de Baryi (Bon.) Berl., Syll. VII [195]. Kugleskimmel (R 84 g), Krybende Skimmel (R 04 a [14] c. icon.), Lit: E. W. 81 [430], Kløcker 06 [167] c. fig.
Common on decaying parts of plants especially on rotten fruit (R. 84 g) forming a blackish coating; on manure of mammals (Hansen 76 [340]); in the air (O. R. 08).

104. **Rhizopus elegans** Eidam 1883, Syll. VII [213], Fisch. IV [236].
Only found a few times on dead seeds in germinating apparatus (O. R.).

105. **Rhizopus necans** Massee, Syll. XIV [435].
Has several times (f. inst. January 1901) been found on bulbs of *Lilium auratum* and *Lilium lancifolium* imported from Yokohama. Diseased bulbs dry up and rot.

Spinellus.

106. **Spinellus macrocarpus** (Corda) Karsten, Syll. VII [206], Fisch. IV [223].
Agaricaceae. J. Krabbesholm Skov!, S. København (Ørsted).

107. **Spinellus fusiger** (Fries) van Tieghem, Syll. VII [206], Fisch. IV [222], Syn: Mucor fusiger, Link, Fries S. M. III [321].
Mycena. S. St. Hareskov (Oct. 08 O. R.).

Absidia.

108. **Absidia septata** van Tieghem, Syll. VII [215], Fisch. IV [239].
Only found a few times on dead seeds in germinating apparatus (O. R.).

109. **Absidia orchidis** (Vuill.) Hagem. 08 [40] c. icon.
In earth from the Jutland callunetum J. Glusted & Holt (O. R.).

110. **Absidia cylindrospora** Hagem. 08 [45] c. icon.
J. In a sample of soil from Rind Krat (O. R.); S. Ruderhegn (O. R.).

Thamnidium.

111. **Thamnidium elegans** (Fries), Syll. VII [211], Fisch. IV [241] c. icon., Syn: Mucor eleg. Fries S. M. III [322], Tham. arbuscula (Otth.) Sacc., Syll. XIV [435] (see Fischer 08 [13] and Lendner 08 [147]).
On seed, S. København (Deichmann & O. R.), common on horse-dung.

112. **Thamnidium Fresenii** (Bainier) Schroet., Syll. VII [208], Fisch. IV [247].
Only found a few times on dead seeds in germinating apparatus (O. R.).

Pilobolus.

113. **Pilobolus crystallinus** Fries S. M. II [308], Syll. VII [185], Fisch. IV [260], Hansen 76 [221] & 78 c. icon., Fl. D. tab. 1080, Schum. no 1392, Crystalagtig Boldkaster (H. 37 [853]), Boldkaster (R 04 a [15] c. icon.).
Is usually found in summer on manure of all sorts of mammals (f. inst. Cervus, Lepus (F. & W. 08) Canis, Equus, Sus scrofa etc.). The first to occupy himself more thoroughly with researches of this fungus was O. F. Müller; finding the little Rhabditis terricola in it he believed them to be context and therefore named it an animal plant. He first found it in July 1764 and recorded it in the "Gazette litteraire de Francheville" 1767, and his paper was later on translated into German (Müller 1768); later on he calls it a crystalline fungus (Müller 1782). Schumacher has also observed it very closely and describes its whole development.

114. **Pilobolus Kleinii** van Tieghem, Syll. VII [185], Fisch. IV [262].
On dung of Equus. J. Fladbro! ([22]/7 04).

115. **Pilobolus roridus** Fries S. M. II [309], Schum. no 1393, Bedugget Boldkaster (H. 37 [854]).
On dung of mammals in the autumn.

116. **Pilobolus longipes** van Tiegh., Syll. VII [185], Fisch. IV [264].
On dung of Equus. Saltholm ([16]/6 89 O. R.).

Pilaira.

117. **Pilaira fimetaria** (Fries)!, Syn: Hydrophora fim. Fries S. M. III [313], Mucor fim. Link, Syll. VII [199], Hydrophora stercorea Fries S. M. III [314], Mucor. sterc. Link, Syll. VII [191], Pilaira anomala (Ces.) Schroet. Syll. VII [188], Fisch. IV [255] c. icon. Pilobolus anomalus Brefeld.
On dung of mammals (Hansen 76 [340]).

Chaetocladium.

118. **Chaetocladium Jonesii** (Berk. & Br.) Fresenius, Syll. VII [220], Fisch. IV [285].
On dung of mammals (Hansen 76 [340] & F. K. R.).

Piptocephalis.

119. **Piptocephalis Freseniana** de Bary & Woronin, Syll. VII [226], Fisch. IV [289], Syn: Pipt. arrhiza van Tiegh.
On dung of mammals (Hansen 76 [340] & F. K. R.).

Entomophtorineae.

Empusa.

120. **Empusa grylli** (Fres.) Nowakowski, Syll. VII [282].
Locustes sp. S. Sandbjerg (O. R.), Vidnesdam (O. R.), Charlottenlund (O. R.). *Stenobothrus variabilis*. S. Hillerød (Boas August 1896).

121. **Empusa muscae** Cohn, Syll. VII [281], Almindelig Flueskimmel (R 04 a [22]).
Musca domestica common July—Nov. *Scatophaga*, S. Færgelunden. *Diptera*. S. Hornbæk Plantage. *Platycheirus clypeatus*. Amager Fælled (O. R.).

Lamia.

122. **Lamia culicis** (A Braun) Nowakowski, Syn: Empusa cul. (B.) Wt., Syll. VII [281].
Culex sp. L. Stensgaard ([20]/8 85 O. R.). *Cecidomyia* sp. S. Ruderhegn, Harsdorffsvej (O. R. see R 96 m [128]). *Sciara* sp. S. Kobenhavn (O. R.).

Entomophtora.

123. **Entomophtora aphidis** Hoffm., Syll. VII [282].
Aphis sp. on *Beta*. Very common (summer 1911 F. K. R.). *Aphis* sp. on *Cucumis*. F. Odense (August 1893 look R 95 a [203]).

124. **Entomophtora aphrophorae** Rostrup 96 m [127] c. fig.
Hyphae & conidia hyalinae v. dilute fuscidulae; hyphae 8—10 μ cr., guttulatae; rhizoid. ambitu longe exstant., ramos.; hyphae conidiophorae sursum incrassatae; conidia fusoideo-oblonga, 16—18 μ × 7—8 μ, 1-guttulata. Sporae perdurantes ignotae.

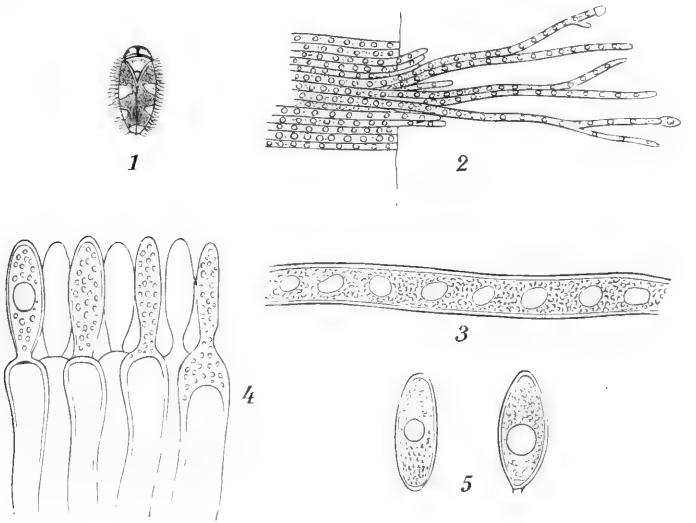


Fig. 4.
Entomophtora aphrophorae Rostrup. 1. Aphrophora spumarea (slightly enlarged). 2. Rhizoides (× 100). 3. Hyphe (× 600). 4. Conidiophores (× 800). 5. Conidies (× 800).

Aphrophora spumaria. J. Sæby, Gudenaa (F. K. R. look R 97 m [38]); F. Bogense (Exc. 3/8 95); S. Tisvilde (August 94 O. R.).

125. **Entomophtora dipterigena** Thaxter, Syll. IX [352].
Culex sp. S. Hillerød (Boas). *Chironomus* sp. F. Refsøre (4/7 91).

126. **Entomophtora echinospora** Thaxter, Syll. IX [353].
Musca sp. S. Alindelille Skov (17/8 84).

127. **Entomophtora forficulae** Giard, Syll. IX [351].
Forficula sp. Møen Liselund (16/8 88); B. Ekkodalen (R 06 dd [371]).

128. **Entomophtora muscivora** Schroeter, Syll. VII [282].
Calliphora sp. S. Teglstruphegn (July 05).

129. **Entomophtora nebriae** Raunkiær 93 [109].
Nebria brevicolli. S. Dyrehaven (1888 Raunkiær), Charlottenlund (24/10 93 V. A. P.)

130. **Entomophtora rhizospora** Thaxter, Syll. IV [354].
Phryganea sp. J. Silkeborg (J. C. Nielsen).

131. **Entomophtora sphaerosperma** Fres., Syll. VII [282], Syn: Ent. radicans Brefeld, Kaalormskimmel (Boas 06 [36]).
Common July—October on caterpillars of *Pieris brassicae* and *Plutella cruciferarum* (R 92 g [66] & 06 a [104], F. K. R. 06 [119], 06 b, 11 b).

132. **Entomophtora tenthredinis** Fres., Syll. VII [282].
Nematus septentrionalis. J. Buderupholm ([11]/9 92 abundantly).

Tarichium.

133. **Tarichium megaspermum** Cohn, Syll. VII [284], Knoporm-svamp (F. K. R. 06 b).
The first diseased caterpillars are found in the middle of August; at the beginning of October they are found in the soil in great abundance (F. K. R. 06 b).
In the caterpillars of *Agrotis segetum*. J. Viborg!, Arden (Bentzen); S. Øresundshøj (Sept. 87), København (R 06 a [105], F. K. R.).

Ascomycetes.

Hemiascineae.

Protomyces.

134. **Protomyces macrosporus** Unger, Syll. VII [319], Fisch. V [113]. April—October.

Aegopodium podagraria common. *Berula angustifolia.* J. Vejle (R 95 a [204]); F. Dalum (Jak. Lge). *Anthriscus silvester.* J. Skive!; F. Vejstrup Aaskov ([22]/4 74), Svenborg (Exs. Thüm. myc. 1014); S. Kastellet (Kiærskov); B. Hammershus (R 06 dd [376]). *Peucedanum palustre.* S. Lyngby Sø. *Laserpitium latifolium.* S. Jonstrup Vang (R 85 a & 96 o).

135. **Protomyces pachydermus** Thümen, Syll. VII [319], Fisch. V [116], R 90 e [161].

Rostrup states (79 [24]) that this fungus will usually be found again every year in the same place, in May—July.

Taraxacum vulgare. J. Viborg; F. Hjallese (Jak. Lge), Stokkebæk Aa ([21]/6 71), Skaarup; S. Kallundborg, Klampenborg.

Taphridium.

136. **Taphridium umbelliferarum** (Rostrup) Lgh. & Juel 02 [7], Syll. XVIII [203], Syn: Taphrina umb. R 85 a [239] & 91 b [256], Magnusiella umb. (R) Sadeb. 93 [88], Taphrina oreoselini Massal. 89, Syll. VIII [815].

May—July, quite common.

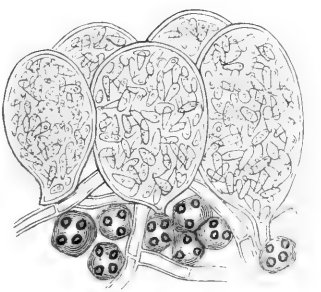


Fig. 5. Taphridium umbelliferarum, $\frac{500}{1}$, from R 91 b.

Peucedanum palustre. F. Skaarup, Faaborg; S. Lyngby Mose ([15]/6 93 F. K. R. again [31]/7 09!), Gisselfeld; L. Saxkøbing. *Heracleum sphondylium.* J. Bangsbo Skov! Krabbesholm Skov (! Exs. Syd. Phyc.), Seem Skov (E. W.); F. Broholm, Skaarup (June 1876), Wedellsborg; S. Jægerspris, Boserup, Stevns Klint (O. R.), Herlufsholm (O. R.), Skelskør (P. N.).

Protoascineae.

Specimens of a number of Saccharomyces species are found in Rostrup's herbarium, supplied by Mr. Ove Rostrup. Concerning their classification, biology etc. the papers of E. C. Hansen, Kløcker, Schøning, Grønlund, Alf. Jørgensen, Orla Jensen and others may be referred to (A list of the literature is found in Kløckers (06 a & b) and Lindners (05) papers). A number of the species are divided into numerous subspecies or races, more on account of their effect (on beer and wine) than according to morphologic characters. Concerning their localities very little information is found in literature as they are only studied in breweries and laboratories.

Endomyces.

137. **Endomyces Magnusii** Ludwig, Syll. X [71].

In white, mucous flux from the stem. *Quercus robur*. J. Fusingø (Lind 04), S. Søndermarken (1886 see Hansen 89 [633]).

Pichia.

138. **Pichia membranaefaciens** Hansen, Syn. Saccharomyces mem. Hansen, Syll. VIII [918].

E. C. Hansen (89) first found it in white mucous flux on roots of Alnus, later on A. Jørgensen found it in white wine.

Saccharomyces.

139. **Saccharomyces acidi-lactici** Grotenfelt, Syll. XVIII.

In milk. According to Kløcker it is no genuine Saccharomyces but a "Torula".

140. **Saccharomyces apiculatus** Reess, Syll. VIII [919], den citronformede Gærsvamp (Grønlund 89 c. icon.).

Found by Hansen (89) in mucous flux on Quercus and Ulmus in Søndermarken. S.

141. **Saccharomyces aquifolii** Grønlund (92 c. icon.), Syll. XI [457].

On the fruits of Ilex aquifolium, S. Garden by Carlsberg ([15/2] 91 Grønlund).

142. **Saccharomyces cerevisiae** Hansen, Syll. VIII [916].

Is much used in breweries; concerning its subspecies see Kløcker (06 b).

143. **Saccharomyces ellipsoideus** Hansen, Syll. VIII [917], Syn: Sacch. ell. Reess part.

Is one of the numerous species of Saccharomyces active in the fermentation of the juice of grapes.

144. **Saccharomyces exiguus** Hansen, Syll. VIII [917], Syn: Sacch. ex. Reess partim.
Is often found in yeast.

145. **Saccharomyces fragilis** Jørgensen 98 c. icon., Syll. XVIII [199].
S. København in "Kephir".

146. **Saccharomyces ilicis** Grønlund 92 c. icon., Syll. XI [457].
On the fruits of Ilex aquifolium, S. Garden by Carlsberg ([25]/10 90 Grønlund).

147. **Saccharomyces intermedius** Hansen, Syn: Sacch. pastorianus II Hansen.
Found for the first time in a Copenhagen brewery (Hansen).

148. **Saccharomyces mali Duclaux** Kayser.

149. **Saccharomyces mali Risler** Kayser.
This and the above are both found in cider.

150. **Saccharomyces Marxianus** Hansen, Syll. VIII [918].
Found on the fruits of *Ribes rubrum*.

151. **Saccharomyces pastorianus** Hansen.
Was first found in dust in the air of a brewery in Copenhagen (Hansen); its presence is very disagreeable to the brewers as it gives the beer a very bitter taste and an unpleasant smell.

152. **Saccharomyces piriformis** Ward.
In ginger-beer.

153. **Saccharomyces turbidans** Hansen, Syn: Sacch. ellipsoideus II Hansen, Sacch. ellips. Reess partim.
Is found in turbid beer.

154. **Saccharomyces validus** Hansen, Syn: Sacch. pastorianus III Hansen.
Was first found in turbid beer in Copenhagen; its presence in the beer is very unpleasant to the brewers as it causes turbidness.

Saccharomycodes.

155. **Saccharomycodes Behrensianus** Kløcker.

156. **Saccharomycodes Ludwigii** Hansen, Syn: Saccharomyces L. Hansen, Syll. XI [457], R 02 a [444], originally found by Hansen (89 [684]) in mucous, fermenting flux of stems of Ulmus and Quercus.
J. Fusingø!, S. Søndermarken (Hansen).

Saccharomycopsis.

157. **Saccharomycopsis capsularis** Schiønning.
Produces a downy skin on the liquids; originally found by E. C. Hansen in a sample of earth from the Alps.

Willia.

158. **Willia anomala** Hansen, Syn: Saccharomyces anomalus Hansen, Syll. XI [457].
Was first found by Hansen in mixed brewing ferment from Bavaria, later on also found on bran, decoction of Althæa-root, fruits etc. (Kløcker 06 c. icon).

159. **Willia saturnus** Kløcker, Syn: Saccharomyces saturnus Kløck., Syll. XVIII [200].
In samples of earth from Denmark, Italy and Himalaya.

Zygosaccharomyces.

160. **Zygosaccharomyces Priorianus** Kløcker 06 b [112].
In the body of Apis mellifica.

Schizosaccharomyces.

161. **Schizosaccharomyces mellacei** Jørgensen.
Found in Copenhagen in treacle (cane-sugar-molasses) from Jamaica.

162. **Schizosaccharomyces octosporus** Beijerinck, Schønning 03 c. icon.
Found by Schiønning on raisins from Italy.
Mycoderma cerevisiae Desm., Syn: Saccharomyces mycoderma Reess, Syll. VIII [917].
Is a common name of various fungi causing a membrane on fermenting fluids.

Protodiscineae.

Taphrina.

I am following Rostrup (91 b & 02 a), Johanson (85), Neger (05), Juel (09) etc. in referring all species of this group to the genus Taphrina.

163. **Taphrina lutescens** Rostrup (91 b [257] c. icon.), Syll. X [68], Syn: Magnusiella lut. (R) Sadeb., Exoascus lut. (R). Sadeb. 03, Lit: Neger 05 [52].

Causes yellow non-hypertrophied spots on the fronds of the host-plant. The intercellular mycelium sends out hyphae between the cells of the epidermis. The asci are much protruding, unusually slender 60—75 × 8—9, early filled with conidia which are 4—5 μ × 0,5—1 μ (R).

No doubt the fungus is not rare, but only little conspicuous, to be found June—September.

Aspidium thelypteris. J. Sødal near Viborg!, Fladbro (Lind 04); S. Lyngby Mose!, Gjorslev Dyrehave ($^{17}/_{7}$ 89).

164. **Taphrina Vestergrenii** Giesenh., Syn: Exoascus Vest. (G.) Sacc. Syll. XVIII [196].

Aspidium filix mas. S. Stigsnæs Skov near Skelskør (Exc. $^{22}/_{6}$ 07, Exs. Rehm).

165. **Taphrina Johansonii** Sadeb., Syll. X [68], R 02 a [423].

May. In the capsules, transformed by the attack and assuming a bright yellow colour.

Populus tremula. J. Krabbesholm Skov!, Viborg Sø (May 84 Gad), Hald (Gad); F. Rødskebølle (C. N. Pedersen); S. Kaningaarden (F. K. R.); Møen Møensborg (Ingerslev).

166. **Taphrina aurea** (Fries) Tul., Syll. VIII [812], Syn: Erineum aureum Pers., Fries. S. M. III [520], Exoascus aur. (P.) Sadeb. Wt. II [9]. Erineum populinum Schum. no. 2176, Fl. D. tab. 2098 fig. 3 (see R 85 g [153]), Lit: R 80 a [152], 91 b [262], 02 a [426].

June—October, both on the upper- and under-side of the leaves; produces golden-coloured vesicles on them; may also cause incipient malformations of the shoots (Neger 06 [362]); common.

Populus nigra. F. Skaarupøre; Lang. Gulstav, Karlseje; B. Common (R 06 dd [376] & Neger 06). *Populus nigra pyramidalis.* J. Skive!; F. Svenborg; Thorseng Valdemarslot. *Populus certinensis* (hosp. nov.). S. Korsør!. *Populus deltoides.* Læsø!, J. Vihøj (Gad); F. Lundskov, Vængemose, Skaarup; S. Brøndbyvester! Vemmetofte Strand; L. Utterslev and many other places.

167. **Taphrina Tosquinetii** (Westd.) Magnus, Syn: Ascomyces Tosquinetii West, R 83 d [245], Taphrina alnitorqua (Tul.) Sadeb., Wt. II [7].

Both Winter (II [7]) and Saccardo (Syll. VIII [817]) include this species and the following one under this name; Rostrup has formerly (80 a [151] & 83 d [245]) even included them as also Taph. Sadebeckii, but Rostrup separates them in his later papers (R 91 b & 02 a [423]). It is common all over Denmark on the leaves of Alnus glutinosa in May—September causing hypertrophic deformations on them; only a few of the localities have been recorded.

Alnus glutinosa. J. Gaardbogaard, Krabbesholm!, Sofiendal, Greisdalen, Stenderup; F. Rønninge Søgaard, Broholm, Brændeskov; S. Folehaven (R 96 m [132]), Lyngby Mose!, Basnæs (P. N.); B. Allinge & Paradisdal (Neger 06).

168. **Taphrina Sadebeckii** Johanson, Syll. VIII [816], R 91 b [260] & 02 a [426], Syn: Exoascus flavus Sadeb. Wt. II [8].

June—Sept., as patches on the upper surface of the leaves, rather inconspicuous.

Alnus glutinosa. J. Viborg!, Grenaa; F. Glorup, Brændeskov (R 83 d [245]), Tiselholt; S. Folehave (R 96 m [132]); L. Vesterborg, Bøllesminde; B. Allinge & Hammershus (Neger 06), Blykobbe & Ekkodalen (R 06 dd [376]). *Alnus glutinosa laciniata*. J. Borrevold.

169. **Taphrina amentorum** Sadeb. 1888 [90], Syn: Taph. alni incanae (Kühn) Magnus, Exoascus alnitorqua (Tul.) var. alni incanae Kühn (Rabenh. fung. europ. exs. 1616), Ascomyces Tosquinetii strobilina Rostrup 80 a [151] c. icon., Exoascus alni incanae Kühn Syll. X [69], Lit. R 91 b [261].

The name bestowed upon it by Sadebeck should be preferred to that of Kühn, the latter having only recorded this fungus as a variety.

Common in the catkins of Alnus. Rostrup and Hartz have recorded its presence in interglacial deposits by Ejstrup J. (Hartz 09 [228] c. icon.). Neger thinks (06 [362]) that this species might chiefly be found along the coasts of the Baltic and in the mountains. O. Rostrup found it at Herlufsholm in Septbr. 78, from where it has been distributed in Thümens Mycotheca No 1366 under the name of Exoscus alni de By. var. strobilinus Thüm.

Alnus glutinosa common. *Alnus incana*. Samsø Brattingsborg (Exc. [27/7] 87); S. Gaunø (E. W.); L. Knuthenborg; B. Aakirkeby (Jonathan Lange).

170. **Taphrina epiphylla** Sadeb., Syll. VIII [816], R 91 b [258] & 02 a [418], Syn: Exoascus epiphyllus Sadeb. Wt. II [10].

The fungus makes its presence conspicuous by the large, but not dense witches-brooms which it produces on the trees; the ascigerous stage is found in the leaves June—September.

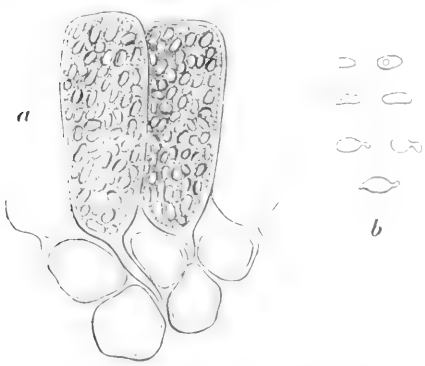


Fig. 6. Taphrina betulina Rostrup 2 asci with conidia, $\frac{(400)}{1}$, from R 02 a.

Alnus incana. J. Viborg!, Grenaa, Fredericia; F. Kerteminde (Exc. [6/8] 95), Brændeskov; S. Tisvilde, Folehaven (R 96 m [132] & 96 q [119]). Sorgenfri (F. K. R.), Brændemose near Lerchenfeld (Exc. [16/6] 00); Falst. Bøtø (R 99 b).

171. **Taphrina betulina** Rostrup 83 d [296] & 91 b [260], Juel 09 [186] c. icon., Syn: Exoascus betulinus (R) Sadeb. 93 [60], Birkens Heksekostsvamp (R 89 a [21]).

On Betula pubescens it forms the well-known witches-brooms whose leaves have a greyish bloom on the whole of the under-side. Asci large 45—50 μ × 15—20 μ, early filled with conidia, the stalk-cell 15 μ—25 μ long, pointed below as it is placed deep between the epidermis-cells. The conidia are oblong 5—7 μ long, generally with 1—2 vacuoles.

It has been identified by Saccardo (Syll. VIII [818]) and Winter (II [8]) with T. turgida; even Rostrup has once expressed the same opinion (R 91 b [260]), but later on he has maintained that the two fungi must be well separated species, partly because Betula pubescens and verrucosa are often found growing together, one being severely affected, the other not at all, partly because evident morphological characteristics are found, which separate them (R 96 o [126] see also R 02 a [418] c. icon.). Common.

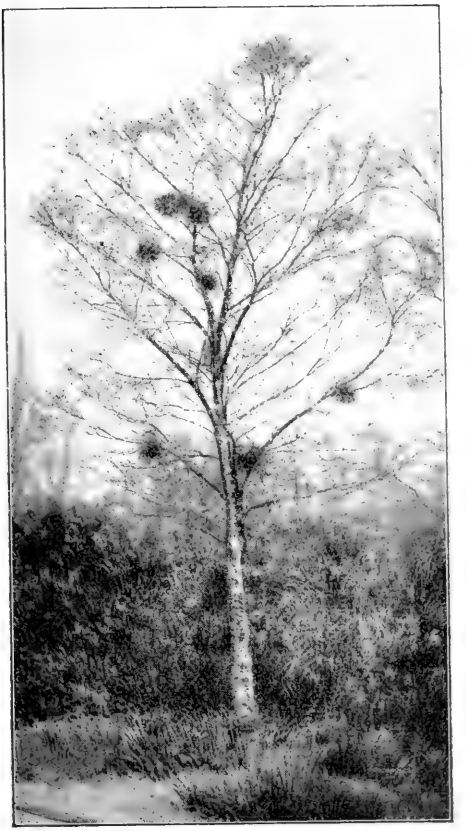


Fig. 7. Taphrina betulina Rostrup on Betula pubescens, from R 02 a.

Betula pubescens. J. Eskær in Salling!, Asmildkloster (Gad), Randers (Gad), Silkeborg; S. Jonstrup Vang, Bøllemosen, Bromme Plantage, Skelskør (Lind 07 b); Falst. Stubbekøbing and in many other places. *Betula nigra* & *urticifolia.* S. Landbohøjskolens Have.

172. **Taphrina turgida** (Sadeb.) Giesenh., Syn: Exoascus turg. Sadeb., Syll. VIII [818] partim & Wt. II [8] partim., R 02 a [419].

Forms witches-brooms on the branches of Betula verrucosa, rare.

Betula verrucosa. S. Tisvilde Hegn, Frederiksværk ([26]/5 94 Joh. Helms see R 96 m [133]); Falst. Horreby Lyng (Exc. [24]/6 11); B. Dynddalen (Neger 06).

173. **Taphrina betulae** (Fuckel) Johanson 85, R 91 b [261] & 02 a [426], Syn: Exoascus betulae Fuckel, Syll. VIII [818], Wt. II [9].

June—September, produces vesicular spots on the leaves, but no witches-brooms.

Betula verrucosa. J. Silkeborg, S. Sonnerup Plantage, Folehaven (R 96 m); L. Hardenberg; B. Dynddalen (Neger 06 [362]), Almindingen.

174. **Taphrina carpini** Rostrup, Syll. VIII [814], R 85 a [238] & 02 a [419] c. icon., Syn: Exoascus carp. Rostrup 81 a [94] & 81 c [154], Wt. II [10]; Avnbøgens Heksekostsvamp (R 83 d [249] & 89 a [22]).

June—Sept. It is Rostrup who made the important discovery that most of the witches-brooms on the trees are caused by attacks of some parasitic fungus of this family. It appears from his diaries that he, as early as 1875, closely examined the numerous witches-brooms found on Prunus insititia near his home at Skaarup without succeeding in attaining a definite result; it was not until 1880, when he found numerous similar excrescences on Carpinus betulus near Herlufsholm, that he succeeded in proving that all leaves and twigs of the witches-broom were penetrated by a fungus not found outside the same; this put him on the right track, so that soon after he found other similar fungi both in witches-brooms on Prunus, Betula etc. (R 81 a & 91 b [249]).

Carpinus betulus. F. Langeso, Ravnholt!, S. Nørreskov, Frederiksberg Have, Herlufsholm (June 80); L. Guldborg, Stensgaard; Møen Ulfshale; B. Common (R, E. W., Neger).

175. **Taphrina coerulescens** (Desm. & Mont.) Tul., Syll. VIII [814], R 02 a [426], Syn: Exoascus coer. Sadeb. Wt. II [10].

Quercus robur. F. Tiselholt ([26]/7 91 see R 92 g [74] & 93 a [109]).

176. **Taphrina ulmi** (Fuckel) Johanson, R 91 b [259] & 02 a [426], Syn: Exoascus ulmi Fuckel, Syll. VIII [819], Wt. II [11], Exoasc. campester Syll. VIII [280].

June—Sept.

Forms rather large, pale spots on the leaves, without, however, changing them. Is most frequently found on suckers.

Ulmus campestris. F. Broholm. *Ulmus montana.* J. Krabbesholm Skov!, Silkeborg, Kolding; F. Broholm; S. Lottenborg ([30]/6 90), Lerchenborg!, B. Allinge (Neger 06).

177. **Taphrina githaginis** Rostrup 91 b [257], Syll. X [68], Syn: Magnusiella gith. (R) Sadeb., Taphridium? gith. (R) Neger 05 [71].

The mycelium penetrates the whole of the host-plant, and the asci break forth everywhere both on stalks and leaves bursting the epidermis. The asci are ellipsoidal, yellowish, 48—58 µ × 30—45 µ, early filled with numerous conidia so that only among the youngest a few globular spores are found. The conidia are 4—6 µ × 2—3 µ. The hyphae are 4—6 µ thick. It does not cause hypertrophy to the host-

plant (R 91 b). The affected specimens of Githago are low-stemmed, and all parts of the plant even the petals are peculiarly curled (R 95 a [206]). It seems to be very rare. Besides the two Danish localities I have only seen it recorded from Caucasus (Jaczewski 01).

Agrostemma githago. S. Ørsløv (P. N.); Møen Hunosøgaard (Exc. [26]/6 93).

178. **Taphrina tormentillae** Rostrup 85 a [239], Syn: Exoascus deformans (Berk.) Fuckel var. potentillae Farlow in Ellis. North-American Fungi 1879, and in Proceedings of the American Academy of Arts and Sciences XVIII p. 84 1883, Taphrina potent. Johans. 1885 c. icon., R 91 b [256], Exoascus potent. Sacc., Syll. VIII [819], Magnusiella potent. Sadeb.

The name given to it by Rostrup is the first one applied to it as species name, and accordingly it has to be preferred to that of Farlow. Its appearance is very similar to that of the preceding species; its mycelium either penetrates the whole host-plant or a single branch of it. Rostrup originally classified it under Physoderma (in herbario). It is very common and is found in several other places than those here mentioned.

Potentilla erecta. Læsø!; J. Klitmøller, Løgstør!, Næsborg!, Langaa, Silkeborg, Sdr. Omme!, Klelund Plantage; F. Hesselager, Skaarup; S. Fredensborg; L. Stokkemarke; Falst. Liselund ([6]/8 76); Møen Liselund; B. Rø, Almindingen.

179. **Taphrina minor** Sadeb. 1890, Syn: Exoascus minor (Sadeb.) Sacc. Syll. X [70].

In the leaves, May—July.

Prunus avium. J. Viborg!, Silkeborg!; S. Hornbæk, Teglstrup Hegn, Furesø ([22]/5 1896), Virum!, Borreby (Exc. [22]/6 07).

180. **Taphrina cerasi** (Fuckel) Sadeb., R 93 o [18], R 02 a [416] c. icon., Syn: Exoascus cerasi Fuckel, Syll. X [69], Exoasc. Gilgii P. Henn. & Lindau, Syll. XI [436].

Produces large but not thick witches-brooms, rather common on cultivated and wild cherry trees (R 91 b [254]).

Cerasus avium. F. Tangegaard, Skaarup; S. Hornbæk, Vedbæk, Dyrehaven, Roskilde; L. Stensgaard; B. Almindingen.

181. **Taphrina insititiae** (Sadeb.) Johanson, R 91 b & 02 a [418], Syn: Exoascus insit. Sadeb., Syll. VIII [817], Wt. II [6], Exascus deformans partim. R 79 b [155] & 83 d [250], Troldkoste paa Blommetræer (R 93 o [19]).

Produces large witches-brooms on Prunus domestica and insititia; whether it be the same species found a few times on leaves of Prunus spinosa and padus is still disputed; the patches produced by the fungus in the leaves of the said host-plants are always so small and

insignificant, and the fungus in them so badly developed, that a correct determination is impossible. Such spots are found on leaves of Prunus spinosa B. Hammershus (R 06 dd [376]) and on Prunus padus F. Skaarup & S. Jonstrup Vang.

Prunus domestica. F. Odense (Helweg), Tangegaard (Schested). Skaarup; S. Boserup (F. K. R.). *Prunus insititia.* F. Glorup, Bøgeskovgaard (May 81 see R 81 c); S. Frederiksholm; L. (R 91 b [255]).

182. **Taphrina pruni** (Fuckel) Tul., R 85 k, 91 b [253], 02 a [420] c. icon., 04 n, Syn: Exoascus pruni Fuckel, Syll. VIII [817], Wt. II [5], R 79 [17] & 80 a [154]. Blommesvampen (R 76 b [42], 88 n [49]), Bønnesyge (R 93 o [19]), Blommepunge (R 02 a).

It is found in May—June and is most common in rainy years; Rostrup states it to have been particularly common in the gardens in the year 1879.

Prunus domestica. J., F., S., B. (Svaneke!). *Prunus padus.* J., F., S., L.

183. **Taphrina Rostrupiana** (Sadeb.) Giesenhagen 95, R 02 a [421], Syn: Exoascus Rostrupianus Sadeb., Syll. XI [435], Taphrina pruni partim. for instance R 91 b [253].

Is closely connected with the preceding one, but still to be clearly distinguished from it (R 96 o [129]); it is common in the fruits of Prunus spinosa which become hypertrophied (Saccardo is mistaken in writing "in foliis tumoris").

Prunus spinosa. J. Odder (C. G. Olsen); F. Ringe!, Ø. Aaby, Bjørnemose; S. Lyngby (H. M.), Højsande (F. K. R.), Stigsnæs (Exc. [23]/6 07); Am. Kastrup; B. Hammershus (O. R.).

184. **Taphrina deformans** (Berk.) Tul., R 04 m, Syn: Exoascus def. Fuckel, Syll. VIII [816], Wt. II [6], Blæresyge (R 91 b [255], 93 o [21], 02 a [424] c. icon.).

What Rostrup (80 a [155]) indicates as Exoasc. deformans is both this one, Taphr. cerasi and Taphr. insititiae. It is very common on peachtrees in the gardens and causes great damage; many trees die from the attack of the fungus (R 90 f, 91 g, 92 o etc.).

Persica vulgaris. J., F., S. etc. common.

185. **Taphrina bullata** (Berk.) Tul. R 84 g & 02 a [425], Syn: Exoascus bullatus Fuckel, Syll. VIII [817], Wt. II [5], Pærebladenes Blæresyge (Lind & Ravn 10 [27]).

Rostrup states (91 b [259]) that the primary attacks take place in spring from the mycelium which has hibernated in the buds. In July—August the spores from them will cause secondary attacks; on the leaves of Pirus; produces only rather inconspicous spots.

Pirus japonica. S. Lyngby, Roskilde. *Pirus communis.* J. Viborg (Gad), Aar-

hus!; F. Tiselholt ($^{14}/_{5}$ 78); S. Lyngby, Vilvorde, Øregaard, Hellerup (R 86 g), Landbohøjskolens Have, Roskilde, Gl. Køgegaard.

186. **Taphrina crataegi** Sadeb., R 91 b [254] & 02 a [423], Syn: Exoascus crat. Sacc. X [70], Exoasc. bullatus R 80 a [155] partim.

May—June, in the leaves of *Crataegus monogyna* and *oxyacantha*, common; giving the attacked leaves a bright red colour.

Helvellineae.

Geoglossaceae.

Mitrula.

187. **Mitrula abietis** Fries S. M. I [492], Syn: Mitrula Heyderi Pers. Fl. D. tab. 1670 fig. 2, Schum. no 2031, Mitrula cucullata (Batsch) Fries Epicr. [384], Syll. VIII [33], Rehm III [1148], Granens Heyderie (H 37 [824]), Gran Huesvamp (R 98 q [252] c. icon. & 04 a [214] c. icon.).

Not uncommon in autumn in large groups on the cover of acicular leaves in spruce forests.

188. **Mitrula paludosa** Fries El. I [234], Syn: Mitrula phalloides (Bull.) Chev. Syll. VIII [33], Rehm III [1147] c. icon., Leotia Bulliardi Pers., Fl. D. tab. 1377, Mose-Hættesvamp (H 37 [823]), Sump-Huesvamp (R 04 a [214]).

May-June. J. Skiveren (Nic. Hartz), Letbæk Mølledam near Varde (J. J. Lund); S. On the beach of Gribsø in great abundance among tufts of Iris (O. R. see R 05 b [310]), on swampy ground by Aldershvile ($^{22}/_{5}$ 87 Rützou); B. Kohullet (E. Hallas).

189. **Mitrula sclerotiorum** Rostrup 88 c, Syll. VIII [36], Syn: Vibrissea sclerotiorum R 85 h. Hvid Hættesvamp (R 88 a [387]), Huesvamp (R 99 c [127]), Kløverens Huesvamp (R 93 c & 02 a [559] c. icon.), Lit. Kirchner 06 [191] & [209], J. P. Johansen 86.

Ascomate campanulato, globoso-ellipsoideo, albido, margine stipiti adnato; stipite 5—8 mm long., 0,5—1 mm crasso, flexuoso, e sclerotio obscuro enato; ascis cylindraceis v. subclavatis, longe stipitatis, 35—60 μ × 4—5 μ; sporidiis in asci superiori parte conglobatis, oblongefusoideis, 7—8 μ × 1—2 μ.

Rostrup first found it in 1884 and classified it as a species of Vibrissea; on May 9. 1887 he found it again in abundance at a farm called Constantia near Copenhagen (Saccardo has misunderstood this name, writing Constanz Syll. XII [440]). Rostrup cultivated the sclerotia making them produce apothecia from June till December, a few sclerotia might

produce 30 apothecia, and the same sclerotia which had produced apothecia one year might very well produce new ones the succeeding autumn.

The sclerotia are very much like the sclerotia belonging to Sclerotinia trifoliorum, and Rostrup considers both fungi to cause equal

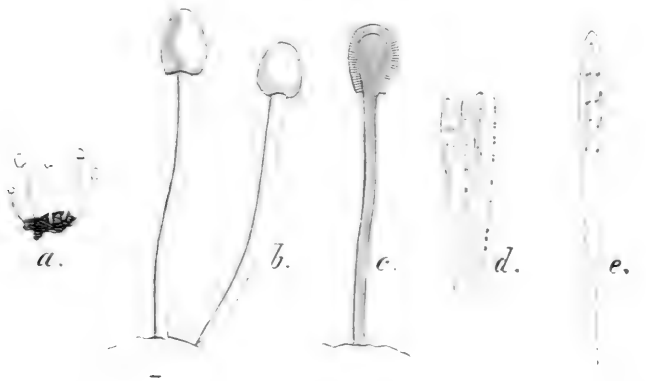


Fig. 8. Mitrula sclerotiorum.
a. sclerotium with 5 ascomata $\frac{1}{1}$. b. 2 ascomata $\frac{5}{1}$. c. section of fungus $\frac{5}{1}$.
d. asci and paraphyses $\frac{750}{1}$. e. ascus $\frac{750}{1}$. From R 02 a.

damage. They are often found on the same host-plants, the sclerotia, however, found on Lotus always belong to this species (R 93 d [110] c. icon).

They have hitherto only been found in Denmark.

Trifolium repens, hybridum, pratense, Medicago lupulina, Lotus corniculatus & var: *tenuifolia*.

Corynetes.

El. Durand (08) has given a splendid monograph of this genus and the cognate genera, with numerous figures.

190. **Corynetes arenarius** (R) Durand 08 [417], Syn: Microglossum arenarium R 92 a [606] & 92 g [76], Syll. XI [392], Mitrula ar. Massee. Ann. Bot. 11 [203] 1897, Leptoglossum latum Peck. 1895, Syll. XIV [743].

Durand made a new description of it based on original specimens which he got from Rostrup. Some years it is found in abundance among the dunes; some years it is not to be found at all. Outside Denmark is has only been recorded as being found in Greenland and Labrador.

J. Skagen ($\frac{3}{10}$ 02 Mrs. Marie Krøyer, again $\frac{28}{8}$ 07 C. H. O.), Gaardbogaard (O. R.), Borris Hede (F. & W. 08); S. Hornbæk Strand ($\frac{7}{10}$ 93 see R 95 a [208]).

191. **Corynetes atropurpureus** (Fries)!, Syn: Geoglossum atrop. Fries S. M. I [490], Microglossum atrop. (Batsch) Rehm III [1152], Syll. VIII [40], Clavaria mitrata Holmskjold 90 [24] tab. VIII, Corynetes purpurascens (Pers.) Durand, Mørkviolet Tungesvamp (H. 37 [823]), Den hættede Køllesvamp (Holmsk.).

Found in autumn at Stampemøllen near Aarhus at the edge of old molehills (Holmskj. 1767).

Microglossum.

192. **Microglossum viride** (Fries) Rehm. III [1151] c. icon., Syn: Geoglossum viride Pers., Clavaria viridis Schrad. Fl. D. tab. 1258 fig. 1, Clav. mitrata viridis Holmskj. 90 [24] tab. IX, Clav. serpentina O. F. Müller 1776 [256], Mitrula viridis (P.) Karst., Syll. VIII [38], Grøn Tungesvamp (H. 37 [823]).

Septemb.—Nov. S. Jonstrup Vang (Exc. [13]/9 03), Strandmøllen (E. W.), Frederiksdal (O. F. Müller 1775 again Oct. 1845 Joh. Lge), Fortunen (Schum. no 2029), Lyngby Mose (Hoffmeyer), København (Didrichsen); Boserup (Thomsen), Billesborg (Exc. [7]/10 94).

Leptoglossum.

193. **Leptoglossum littorale** Rostrup 92 g [75], Syll. XI [392].

Ascoma 0,5—1,5 cm. alt., 0,2—0,5 cm. cr. clavatum, nigrum; asci 100—120 μ × 16—18 μ; sporidia 50—60 μ × 5 μ, hyalina, 1—5 (saepius 3) locularia; paraphyses brunneae. (See figg. 10—12 tab. I).

Hitherto only found in Denmark.

J. On the shore of Snehvide Sø in Snabegaard Plantage [8]/8 90.

Geoglossum.

194. **Geoglossum glutinosum** Fries S. M. I [489], Syll. VIII [42], Rehm III [1154] c. icon., Syn: Geoglossum glut. (Pers.) Durand, Slimet Jordtunge R 04 a [215].

Rather common among moist grass in autumn. Noticed from: J. Viborg Nørresø!; F. Klingstrup Skov [8]/10 73; S. Geelskov.

195. **Geoglossum hirsutum** Fries S. M. I [489], Syll. VIII [46], Rehm III [1157] c. icon., Trichoglossum hirs. (Pers.) Boud., Clavaria ophioglossoides Holmskjold 90 [18] tab. 7 non Linné, Lodden Tungesvamp (H. 37 [822]), Haaret Jordtunge (R 69 [62] & 04 a [214] c. icon., Sev. P. 95 [108]).

J. Kolding (E. W.); F. Mose near Skaarupør; S. Jægersborg Dyrehave (V. Sarauw & R see R 90 n), Københavns Vold Quinti Batteri (Holmskjold); Am. Kongelunden (Exc. [14]/9 73); L. Karleby Mose; Falst. Horreby Lyng.

196. **Geoglossum glabrum** Fries S. M. I [488], Durand 08, Syn: Geoglossum ophioglossoides (L.) Sacc., Syll. VIII [43], Rehm III [1155] c. icon.,

Clavaria oph. L., Schum. no 2028, Fl. D. tab. 1076 fig. 2, Slangetunget Kølledrager (Vib. 1793 [269]), Glat Tungesvamp (H. 37 [822]), Glat Jordtunge (R 69 [62] & Sev. P. 95 [107] c. icon.).

Common in meadows in autumn; Durand indicates it as a cosmopolitan species.

Læsø (C. H. O.); F. Kværndrup, Klingstrup, Skaarup; S. Hornbæk Plantage (O. R.), Ruderhegn (Rützou), Geelskov (R 89 h), Frederiksdal (O. F. Müller 1767 [226] & 1776 [256]), Billesborg Skov (Exc. 7/10 94).

Spathularia.

197. **Spathularia flavida** Fries S. M. I [491], Syn: Clavaria spathulata Müller 1775 & 76 [256], Fl. D. tab. 658, Schum. no 2030, Spathularia clavata (Schaeff.) Sacc., Syll. VIII [48], Rehm III [1158] c. icon., Spatelagtig Kølledrager (Vib. 1793 [269]), Gul Spatelsvamp (H 37 [823], R 69 [62], 98 q [252] c. icon., 04 a [214] c. icon., Sev. P. 95 [107] c. icon).

O. F. Müller first found it among fallen leaves at Frederiksdal and had it delineated from nature for the "Flora Danica" (Müller 75 [158]). He closely studied the fungus especially the manner, in which by fits and starts it flings out its spores. It is most frequently found from September—Oct. in old spruce forests; it may also form large fairy-rings.

J. Stendalsgaard Plantage!; F. Klingstrup; S. Jonstrup (H. M.), Ruderhegn (Rützou), Kokkedal (Friedrichsen), Frederikssund, Grevinge Skov, Dyrehaven (Didrichsen), Boserup Skov (Exc. 2/10 87).

Leotia.

198. **Leotia marcida** Fries S. M. II [28], Syn: Cudoniella marc. (Müller) Sacc., Syll. VIII [841], Phallus marc. Müller. Fl. D. tab. 654 fig. 1., Clavaria tremula Holmskjold 90 [27] tab. XI, Phallus lubricus Müller 72, Fl. D. tab. 719, Merulius lub. Schum. no 1911, Leotia lubrica (Scop.) Pers., Durand 08 c. icon., Fries S. M. II [29], Syll. VIII [609], Rehm III [1165], Leotia gelatinosa Hill. Rehm III [1165] c. icon., Den bævende Køllesvamp (Holmskjold), Gulgrøn Slimhat (R 69 [66] & 04 a [215] c. icon).

August—Novemb. on damp soil in the forest.

J. Vang (Ilsted), Marselisborg (Holmskjold); F. Skaarup; S. Noddebo, Slagslunde Skov (Exc. 20/9 85), Ruderhegn (R 91 j), Dyrehaven (Schum. & R), Bagsværd (Holmskjold), Sondermarken (Didrichsen).

Cudoniella.

199. **Cudoniella acicularis** (Fries) Schroeter, Rehm III [1167] c. icon., Syn: Helotium acic. Fries S. M. II [156], Hel. elongatum Schum. no 2037, Cudoniella Queletii (Fries) Sacc., Syll. VIII [41].

On an old decayed oak-trunk.
S. Bagsværd (Schum.), Charlottenlund (Didrichsen & E. W.), September.

200. **Cudoniella minima** spec. nov.
Ascomate carnoso, firmulo, hemisphaerico, glabro, subtus plicis tenuibus, paucis, distantibus, decurrentibus margine tenuiter inflexo, incarnato-rubro, 0,7 mm diam.; stipite teretiusculo, recto, concolor, 0,5—1 mm long.; ascis clavatis 80—88 µ × 12—14 µ, apice rotundatis, jod ÷, paraphysatis; sporidiis ellipsoideo—elongatis, hyalinis, 16—19 µ × 7—8 µ. (See fig. 13 tab. I & fig. 14 tab. II).
On Dicranum scoparium. J. Borris Kirkegaard (! 6/3 12).

Cudonia.

201. **Cudonia circinans** Fries S. V. [348], Syll. VIII [50], Rehm III [1169] c. icon., Syn: Leotia circ. Fries S. M. II [27].
Will often form fairy—rings on the ground in forests under Coniferae, Aug.—November.
J. Nørregaard in Salling!, Nr. Mølle near Viborg!; S. Tisvilde, Ruderhegn (O. R.), Bromme Plantage; L. Juellinge Dyrehave!; B. Almindingen ([12]/9 88 see R 89 i [235]).

Helvellaceae.

Morchella.

202. **Morchella patula** Fries S. M. II [10], Syll. VIII [14], M. hybrida (Sow.) Pers., Syll. VIII [13], Rehm VII [1201] c. icon.
On the ground. April—May.
S. Gl. Carlsberg (O. R.), Herlufsholm (April 82 O. R.).

203. **Morchella rimosipes** Fries S. M. II [11], Syll. VIII [12], Rehm III [1202].
S. Bernstorff Slotspark (Jac. Hartz), Boserup (1872 Thomsen, 87 Mundt, 98 V. A. P.), Skjoldnæsholm (Rützou), Herlufsholm (O. R.).

204. **Morchella conica** Fries S. M. II [6] (M. esculenta var. con.), Syll. VIII [9], Rehm III [1203].
J. Riis Skov [19]/5 97 (Hoffmeyer); S. Meelby Overdrev (H. Petersen).

205. **Morchella gigas** Fries S. M. II [11], Syll. VIII [12], Rehm III [1203].
Found on the ground in forests in May, a specimen which was measured in fresh condition was 16,5 cm. in height, the pileus 3,5 cm. in height and 3,25 cm. in breadth, the stem 2,25—3 cm. thick.
S. Frederiksberg Have, Opgangen til zoologisk Have ([22]/5 98 see R 99 a [262]).

206. **Morchella esculenta** Fries S. M. II [6], Syll. VIII [8], Rehm III [1206], Syn: Phallus esculentus Linné 1753, Fl. D. tab. 53, Spiselig Morkel (Viborg 1793 [267], H. 37 [825], Ørsted 39 [84], R 69 [61] & 04 a [216] c. icon.), Den ægte Morkel (Sev. P. 95 [106] c. icon.).

It particularly occurs on sandy ground on the outskirts of forests from May—July. Concerning its artificial cultivation see J. S. Riis 05 [27]. Schumacher (26 [687]) recommends it as an edible fungus "but only for sweet-tooths and grand seigneurs who do not eat it because it is palatable, but only because it is so expensive."

F. Ulriksholm (H. 37 [825]), Gamtofte (Rørdam), Tiselholt, Vejstrup Aas Udløb (R 79 [23]); S. Frederiksdal (Müller 1767 [224]), Botanisk Have (75 Kjærskov, 81 Rützou, 93 A. Lge), Boserup (Thomsen), Ledreborg (H. 37 [825]), Hvalsø (C. Jensen), Holsteinborg (H. 37 [825]), Skjelskør (P. N. 77 c [327]), Køge Aas (Toussieng); Møen Klinteskoven (Exc. 2/8 73).

207. **Morchella crassipes** Fries S. M. II [9], Syll. VIII [12], Rehm III [1207]. Found on moist ground near the beach. June.

S. Petersværfts Have (Thymann 11/6 02 see R 05 b [310]); Møens Klint (Wesenberg-Lund Exc. 13/6 09).

Gyromitra.

208. **Gyromitra esculenta** Fries S. V. [346], Syll. VIII [16], Rehm III [1190] c. icon., Syn: Helvella esc. Fries S. M. II [16], Schum. no 2036, Elvella mitra Schäff. part. Müller 67 [227], Fl. D. tab. 116, Biskops Foldhat (Vib. 93 [267]), Spiselig Foldhat (Ørsted 39 [84], Sev. P. 95 [105]), Sandmorkel (Sev. P. 95 [105]), Stenmorkel (R 04 a [216] c. icon.).

Generally occurs on sandy or stony ground in April and May only seldom so late as September.

J. Egebjerg!, F. Allerup (Jak. Lge), Holmstrup; S. Asserbo, Tisvilde (E.W.), Geelskov (Ørsted), Frederiksdal (Müller 67 [225]), Charlottenlund (Schum.), Frederiksberg Have (Fl. D.), Boserup (Gad).

209. **Gyromitra curtipes** Fries 36, Syn: Gyromitra gigas (Krombh.) Cooke, Syll. VIII [15], Rehm III [1193].

S. Boserup Skov (Thomsen April 72 see Ørsted 72 [10]).

Helvella.

210. **Helvella atra** Fries S. M. II [19], Syll. VIII [27], Rehm III [1182] c. icon., Syn: Elvella atra Oeder Fl. D. tab. 534 fig. 1 (1769), O. F. Müller (1770), Sort Foldhat (Vib. 1793 [267], Holmskjold 99 [47] tab. 25).

F. Hjallese Bøgeskov (Jak. Lge), S. Frederiksdal (Holmskjold).

211. **Helvella pulla** Fries S. M. II [20], Syll. VIII [26], Rehm III [1182], Holmskjold 99 [49] tab. 26, Fl. D. tab. 2080, Schum. no 2035, "Helv. escu-

lenta" Hornem. Fl. D. tab. 1559, Jordfarvet Foldhat (Holmskjold), Mørk Foldhat (H. 37 [826]).

Schumacher records having found it on decayed roots of trees in August. Holmskjold has also found it in the forest in autumn.

S. Bagsværd (Holmskjold), Charlottenlund (Schum.).

212. **Helvella elastica** Fries S. M. II [21], Syll. VIII [24], Rehm III [1183] c. icon., Syn: Helv. albida Persoon, Schum. no 2034, Fl. D. tab. 1968 fig. 2, Helv. sublicia Holmskjold 99 [51] tab. 27, Pælet Foldhat (Holmskjold), Elastisk Foldhat (H. 37 [826]), Spændig Foldhat (R 69 [61]).

Occasionally occurs in forests from July—Nov.

F. Hjallese (Jak. Lge), Broholm, Vængemose, Skaarup; Lang. Carlseje; S. Jonstrup Vang (O. R.), Spareskjul Lund near Frederiksdal ([11]/9 1776 Holmskjold), St. Hareskov (O. R.), Fortunen (Schum.), Ordrup Krat, Boserup (Thomsen), Slagelse Skov (Sev. P.), Friheden near Bregentved (O. Rützou), Hæsede Rende.

213. **Helvella lacunosa** Fries S. M. II [15], Syll. VIII [19], Rehm III [1186] c. icon. Holmskjold 99 [47] tab. 24, Fl. D. tab. 1968 fig. 1, Syn: Helv. mitra Schäff. part., Schum. no 2032, Hylket Foldhat (Holmskjold), Hulret Foldhat (H. 37 [826]), Grubet Foldhat (R 69 [61], Sev. P. 95 [105]).

Aug.—Oct. on sandy grund.

J. Vang, Rindsholm; F. Dalum (Joh. Lge), Skaarup; S. Hornbæk (Exc. [28]/9 02), Birkerød (Schum.), Ruderhegn (Rützou), Nørreskov (R 85 d), Frederiksdal (Holmskjold), Slagelse Skov (Sev. P.), Hæsede Rende; Møen Aborrebjærget.

214. **Helvella crispa** Fries S. M. II [14], Syll. VIII [18], Rehm III [1188], Helv. leucophaea Schum. no 2033, Fl. D. tab. 1560.

Not uncommon in deciduous forests, Sept.—Nov. Hornemann writes (Fl. D. fasc. 16): "in sylvis ad terram raro invenit celeb. Prof. Schumacher et Pharmac. Candid. Benzon rei herbariae diligentissimus cultor."

J. Ørsløvkloster!; F. Odense (Jak. Lge), Glorup Dyrehave, Tiselholt; S. Lillerød (H. M.), Lille Hareskov (Exc. [19]/10 84), Kirsten Piils Kilde (Rützou), Sorgenfri, København (A. Bruun), Lerchenborg (Smidt), Slagelse (Sev. P.), Bregentved Dyrehave (Rützou), Hæsede Rende, Herlufsholm.

Verpa.

215. **Verpa conica** Fries S. M. II [24], Syll. VIII [31], Rehm III [1196], Syn: Phallus conicus Müller, Fl. D. tab. 654 fig. 2, Merulius con. Schum. no 1914, Konisk Køllehat (H. 37 [827]).

F. Dalum (Jak. Lge see R 05 b [310]); S. Bagsværd (Schum.), Boserup ([24]/5 73 Thomsen, [19]/5 87 Mundt, [3]/5 94 Balslev), Ledreborg (Exc. [15]/5 09).

Rhizinaceae.

Psilopezia.

216. **Psilopezia aquatica** (Fries) Rehm Mitt. Bayer. Bot. Gess. 1905 no 34 [423], Syn: Peziza aq. Fries S. M. II [137] ex Lam. & de C. Flor. Franc. ed. III [76] 1815, Humaria aq. Rehm III [954].

This fungus seems to have been found very rarely. Not until 70 years after it was first found by de Candolle near Paris was it found again by A. v. Kerner in Tirol on rags in an aqueduct (see Magnus 05 [401]). I also found it on old clothing but on completely dry ground in a forest; its asci were clavate c. 150 μ (p. sp. 84 μ), 28 μ in breadth, 8-spored, the spores congregated in the outer part of the asci, placed in two rows, oval, 28 μ in length, 16—18 μ in breadth without oil-drops, the paraphyses clavate up to 15 μ thick, septated, granulated. Particularly characteristic is the bright blue colour which the whole epithecium will assume when iodine is added and the carneous, waxy consistence and irregular shape of the ascomata. They are most like dry stains of red oil-paint.

J. Krabbesholm Skov (! 27/12 07).

Pezizineae.

Pyronemaceae.

Pyronema.

217. **Pyronema domesticum** (Fries) Sacc., Syll. VIII [109], Rehm III [962], Syn: Peziza domestica Fries S. M. II [107].

On threads of cotton, Sept.

S. København (Feddersen).

218. **Pyronema omphalodes** (Fries) Fuckel, Syll. VIII [107], Rehm III [964] c. icon., Syn: Peziza omph. Fries S. M. II [73].

On the ground, especially on the heaths in Jutland, July—Sept.

J. Feldborg, Utoft (Børgesen 04 [202]). S. Rudersdal; L. Stensgaard.

219. **Pyronema Thümenii** Karsten, Syll. VIII [109], Rehm III [964].

On the ground in the callunetum. J. Nørlund (12/4 95 F. K. R.).

Pezizaceae.

Sphaerospora.

220. **Sphaerospora confusa** (Cooke) Sacc., Syll. VIII [190], Rehm III [1037].

Among moss on a stone-fence. F. Glorup ([31]/3 67).

Pseudoplectania.

221. **Pseudoplectania nigrella** (Fries) Fuckel, Syll. VIII [165], Rehm III [1039], Syn: Peziza nigrella Fries S. M. II [81], Pez. nigra Bull., Schum. no 2073, Fl. D. tab. 1788 fig. 2. Sort Bægersvamp (H. 37 [832]), Mørk Bægersvamp (Sev. P. 95 [109]).

On the ground in spruce forests, February—May.

J. Nørresø near Viborg ([24]/2 84 Gad, again [20]/3 06!). S. Birkerød (Schum.), Ravneholm (O. R.), Frederiksdal (April 67 Samsø Lund, again [8]/4 1911 L. K. R.), Slagelse (Sev. P.), Mogenstrup Stenskov!.

Detonia.

Detonia Sacc., Syn: Barlaea Sacc. non Reichenbach (see Rehm III [1269]).

222. **Detonia arenaria** (Fries)!, Syn: Barlaea ar. Osbeck, Syll. VIII [117], Fl. D. tab. 1854 fig. 2. Peziza arenaria Fries S. M. II [63], Sand Bægersvamp (H. 37 [829]). Rehm (III [995]) considers it identical with Plicariella fuliginea.

J. Lønstrup (E. W.), also found in clean sand on the dunes (Hornemann), finding place not stated.

223. **Detonia cinnabarina** (Fuckel)!, Syn: Barlaea cin. (Fuck.) Sacc. Syll. VIII [112], Rehm III [931].

Found in tufts of moss. B. Neksø (Bergstedt [10]/2 99).

Pustularia.

224. **Pustularia vesiculosa** (Fries) Fuckel, Rehm III [1017], Syn: Peziza ves. Fries S. M. II [52], Syll. VIII [83], R 02 a [559], Pez. vesicularis Schum. no 2047, Blære-Bægersvamp (R 69 [63]).

Occurs most frequently in groups on rich horticultural ground, also on manure (Hansen 76 [340]), common. May—Septbr.

J. Viborg!, Kolding!; F. Skaarup; S. Helene Kilde, Ruderhegn (O. R.), København (Børgesen); B. Rønne!.

225. **Pustularia cerea** (Fries)!, Rehm III [1018], Syn: Peziza cerea Fries S. M. II [52], Syll. VIII [78].

On manure of mammals (Hansen 76 [340]), reported only from this one locality: S. Grevinge.

226. **Pustularia isochroa** (Fries)!, Syn: Peziza isochroa Sacc., Syll. VIII [76], Pez. vesiculosa var. isochroa Fries S. M. II [53].

Both the last mentioned species are often considered to be only varieties of Pustularia vesiculosa.

S. Botanisk Have (April 04).

227. **Pustularia amplissima** (Fries)!, Syn: Peziza ampl. Fries S. V. [349], Pez. coronaria Jacq., Syll. VIII [81], Pustularia coronaria (J.) Rehm & var. macrocalyx (Riess) Cooke, Rehm III [1020].

Møens Klint ([15]/5 1910 Gerda Boeck).

Plicaria.

228. **Plicaria badia** (Fries) Rehm III [1010], Syn: Peziza bad. Fries S. M. II [46], Syll. VIII [82], Pez. pedunculata Schum. no 2048.

On the ground in woods or gardens. June—Sept.

J. Stendalsgaards Plantage (Sept. 92 E. W.), Esbjerg!; S. Fredensborg!, Bagsværd Sø (Muus), Gammelmosen (O. R.).

229. **Plicaria pustullata** (Fries) Fuckel, Rehm III [1013] c. icon., Syn: Peziza pust. Fries S. M. II [55], Pez. Fuckelii Sacc. Syll. VIII [85].

On horticultural ground.

J. Hagens Mølle near Skive!; S. Furesø.

230. **Plicaria repanda** (Fries) Rehm III [1007], Syn: Peziza rep. Fries S. M. II [51], Fl. D. tab. 2031 & tab. 2081, Discina rep. (Wahlb.) Sacc. Syll. VIII [100], Peziza granulosa Schum. no 2045, Pez. pedunculata Schum. no 2048.

S. Birkerød "in faginetis" (Schum.).

231. **Plicaria saniosa** (Fries) Rehm III [1004], Syn: Peziza san. Fries S. M. II [65], Galactinia san. Schrader, Syll. VIII [106].

Only found "upon a somewhat clayey gravel-slope in deep beech-shade." J. Marselisborg Skov August 07 and again July 08 (F. & W. 09 [311]), the largest specimen had a diam. of 3 cm.

232. **Plicaria membranacea** (Fries)!, Syn: Peziza memb. Fries S. M. II [63], Schum. no 2095, Humaria memb. (S.) Sacc., Syll. VIII [128], Humaria fimeti Fuckel, Syll. VIII [145], Plicaria fim. Rehm III [1009], Peziza fim. Hansen 76 [267], Humaria bovina (Phill.) Sacc., Syll. VIII [146].

On dung of *Bos*, July—August. J. Østervedsted Hede (Hansen); S. "in silvis locis umbrosis" (Schum.).

233. **Plicaria muralis** (Sow.) Rehm III [1006], Syn. Geopyxis mur. Sacc., Syll. VIII [72].

F. Dalum Badeanstalt (Jak. Lge).

Plicariella.

234. **Plicariella fuliginea** (Fries) Sacc., Rehm III [994], Syn: Peziza ful. Fries S. M. II [64], Schum. no 2094, Fl. D. tab. 1854 fig. 1, Barlaea ful. Cooke, Syll. VIII [117], Røgfarvet Bægersvamp (H. 37 [830]).

S. "Inter muscos ad terram in pineto, Bagsværd, October" (Schum.).

235. **Plicariella murina** (Fuckel) Rehm III [995], Syn: Peziza murina Fuckel, Hansen 76 [272], Phaeopezia mur. Sacc., Syll. VIII [471].

On dung of mammals: *Mus, Canis, Lepus.* February—May. F. Skaarup; S. Rudersdal, Ørsløv (Hansen).

Lachnea.

236. **Lachnea hemisphaerica** (Fries) Gill., Syll. VIII [166], Rehm III [1058], Syn: Peziza hemis. Fries S. M. II [82], Schum. no 2071, Fl. D. tab. 656 fig. 1 & tab. 1558 fig. 2, Pez. hirsuta Holmskjold 99 [37] tab. 19, Stivhaaret Skaallille (Holmskj.), Halvkugleformig Bægersvamp (H. 37 [832] & R 69 [64]).

Rather common on the ground of forests in summer. July—Sept. J. Aarhus (August 1765 Holmskj.); F. Skaarup; S. Dyrehaven (V. Sarauw), Ordrup Krat (Didrichsen), Frederiksdal (O. R.); L. Bøllesminde.

237. **Lachnea hirta** (Fries) Gil., Syll. VIII [175], Rehm III [1060], Syn: Peziza hirta Fries S. M. II [84], Schum. no 2072, Fl. D. tab. 1970 fig. 2, Lachnea scutellata (L.) Gill., Syll. VIII [173], Rehm III [1063], Peziza scut. L., Schum. no 2115, Fl. D. tab. 1437 fig. 2, Fries S. M. II [85], Pez. cupularis Oeder Fl. D. tab. 469 fig. 3, Pez. ciliata Holmskj. 99 [36] tab. 18, Lachnea setosa Nees, Syll. VIII [182], Rehm III [1064], Pez. setosa Fries S. M. II [87], Randhaaret Skaallille (Holmskj.), Flad Skaallille (Viborg 93 [271]), Stivhaaret Bægersvamp & Skjoldformig Bægersvamp (H. 37 [833]), Skjold-Bægersvamp (R 69 [64]).

It has been stated by v. Höhnel (04 [13]) that all the above mentioned synonyms belong to the same species; it may be found both on wood, for instance stumps of trees, and on the bare ground both on chalk and clay; may be found from August till November; not rare.

J. Stensbæk in Vendsyssel!; F. Klingstrup; S. Birkerød (Schum.), Frederiksdal (Müller 67 [225]); L. Stensgaard, Engestofte (V. Wichfeld); Møens Klint.

238. **Lachnea gregaria** (Rehm) Phill., Syll. VIII [170], Rehm III [1057].

On earth in flower-pots. S. Copenhagen (T. Leth).

239. **Lachnea insignis** (Crouan) Sacc., Syll. VIII [181], Rehm III [1055], Syn: Peziza ins. (Cr.) Boud., Hansen 76 [271].

Abundantly on human excrement in the former botanical garden in København. Oct. 74 (Didrichsen).

240. **Lachnea livida** (Fries) Gill., Syll. VIII [187], Rehm III [1065], Syn: Peziza liv. Fries S. M. II [86], Schum. no 2074, Fl. D. tab. 1915 fig. 3, Blyfarvet Bægersvamp (H. 37 [833]).

S. Charlottenlund "in trunco putrido Fagi", April (Schum.).

241. **Lachnea Lojkaeana** Rehm III [1045], Syll. XI [399].

On decaying seeds in the garden of the Seed-inspecting Office near Copenhagen (O. R. 7/5 95), hitherto only recorded from Switzerland.

242. **Lachnea stercorea** (Fries) Gill., Syll. VIII [183], Rehm III [1056], Syn: Peziza sterc. Fries S. M. II [87], Schum. no 2116, Møg-Bægersvamp (H. 37 [833]).

On dung of mammals, *Equus, Bos, Meles.* Common (Hansen 76 [340]); June —August. J. Stendalsgaards Plantage; F. Skaarup; S. Særslev (Th. Leth), Flaskekroen (O. R.); L. Strynø.

243. **Lachnea theleboloides** (Fries) Gill., Syll. VIII [178], Rehm III [1243] not [944], Syn: Peziza thel. Fries S. M. II [88].

Læsø (July 99 C. H. O.).

244. **Lachnea umbrata** (Fries) Phill., Syll. VIII [174], Rehm III [1051], Syn: Peziza umb. Fries S. V. [351].

J. On moist and sandy ground near Raabjerg Mile (12/7 03!), F. Ellemose near Aalykke (Jak. Lge).

Otidea.

245. **Otidea cochleata** (Fries) Fuckel, Rehm III [1024], Syn: Peziza coch. Fries S. M. II [50], Syll. VIII [86], Krumbugtet Skaallille (Viborg 93 [271]), Muslingformet Bægersvamp (H. 37 [828]), Musling-Bægersvamp (R 69 [63]), Sneġle-Bægersvamp (Sev. P. 95 [110]), Sneglehusformet Bægersvamp (R 04 a [206]).

Generally growing in groups in forests; may, however, also be found on bare sand. May—Octbr.

J. Tversted (M. L. M.), Undallslund!, Borris (F. & W. 08); S. Hornbæk Plantage, Geelskov (O. R.), Ravneholm (O. R.), Frederiksdal (Müller 1767 [226]), Boserup, Faxe (E. W.).

246. **Otidea leporina** (Fries) Fuckel, Syll. VIII [94], Rehm III [1025] c. icon., Syn: Peziza lep. Fries S. M. II [47], Schum. no 2044, Fl. D. tab. 1077 fig. 2, Hareore Bægersvamp (R 69 [63]).

No doubt this is the species called Peziza cochleata by Holmskjold (99 [18] tab. VI.).

Common in the woods, Sept.—Octob., noticed from J., F., S., in many localities; especially in spruce-forests.

247. **Otidea onotica** (Fries) Fuckel, Syll. VIII [94], Rehm III [1025],

Syn: Peziza onotica Fries S. M. II [48], Fl. D. tab. 1970 fig. 1, Pez. rosea Schum. no 2049, Rosenfarvet Bægersvamp (H. 37 [828]), Æseløre Bægersvamp (R 69 [63]).

Occasional, especially in deciduous forests. Sept.—Octob.

F. Skaarup, Holmdrup; S. Bøndernes Hegn (Rützou), Hareskoven, Jægersborg (R 90 n), Grevinge.

Humaria.

248. **Humaria humosa** (Fries) Cooke, Syll. VIII [120], Rehm III [937], Syn: Peziza hum. Fries S. M. II [71], Pez. purpurea Schum. no 2056 b (non Hedw.), Fl. D. tab. 2274 [1], Pez. semipurpurea Hornem., Pez. fulva Schum. no 2089.

Rostrup (99 a [263]) believes Fusarium limosum Rostrup to be in generic relation to this species, which has, however, not yet been proved.

On moist chalk in a house (Haarlev).

249. **Humaria granulata** (Fries) Quel., Syll. VIII [129], Rehm III [942], Syn: Peziza granulata Fries S. M. II [67], Schum. no 2053, Pez. fimetaria Schum. no 2090, Pez. scabra Müller, Fl. D. tab. 655 fig. 2, Ru Skaallille (Viborg 93 [271]), Kornet Bægersvamp (H. 37 [830] & R 69 [64]), Vortet Bægersvamp (R 04 a [207]), Lit: Hansen 76 [60] c. icon.

Very common on dung of *Bos*. July—Octob.

250. **Humaria subhirsuta** (Fries) Karst., Rehm III [943], Syn: Peziza Fries S. M. II [70], Schum. no 2117, Fl. D. tab. 1788 fig. 1, Pyronema sub. Fuckel, Syll. VIII [108], Peziza cinnabarina Schum. no 2113, Pez. subh. var. rubrocinnabarina Fries Fl. D. tab. 1787 fig. 2, Faahaaret Bægersvamp (H. 37 [831]).

Schum. has found it "Insuper materiam viridem in locis humidis circa domos". S. Birkerød, May—June; Didrichsen has found it on human excrement in the former botanical garden. Octob. (Hansen 76 [271]).

251. **Humaria applanata** (Fries) Rehm III [949], Syn: Peziza app. Fries S. M. II [64], Schum. no 2096, Fl. D. tab. 2081 fig. 3, Syll. VIII [92], Flad Bægersvamp (H. 37 [830]).

J. Utoft Hede (Børgesen 04 [202]); S. Geelskov & Bagsværd (Schum.).

252. **Humaria rutilans** (Fries) Sacc., Syll. VIII [133], Rehm III [960], Syn: Peziza rut. Fries S. M. II [68], Fl. D. tab. 1916 fig. 2, Peziza miniata Schum. no 2109, Ildrød Bægersvamp (H. 37 [830]).

On sandy ground among moss and Calluna. October. J. Viborg!; S. Brøndshøj (L. K. R.).

253. **Humaria leucoloma** (Fries) Boud., Syll. VIII [118], Rehm III [935], Syn: Peziza leu. Fries S. M. II [71], Pez. muscorum Holmskj. 99 [40] tab.

21, Fries S. M. II [69], Humaria musc. (H.) Sacc. Syll. VIII [142], Peziza polytrichii Schum. no 2075, Fl. D. tab. 1916 fig. 2 (but not Barlaea polytrichii ("Schum.") Sacc. Syll. VIII [113], Rehm III [927]), Fruehaars Bægersvamp (H. 37 [830]), Mos Skaallille (Holmskj.).

Not uncommon on the ground among moss in autumn.

254. **Humaria merdaria** (Fries) Cooke, Syll. VIII [142], Syn: Peziza merd. Fries El. II [11].

Not uncommon on dung of *Bos* and *Equus*, Aug.—Octob. J. Ribe; Amager (Hansen 76 [272]).

255. **Humaria ripensis** (Hansen)!, Syn: Peziza rip. Hansen 76 [61] c. icon., Syll. VIII [90].

It is most like Humaria semiimersa Karst., but differs from this and all other related species by the ascomata being produced by a sclerotium (Sclerotium stercorarium (de C.) Fries S. M. II [250]) which is spherical and shaggy outside. Hansen found these sclerotia in manure of Oves aries and Bos near Ribe J. in August 1874 and on April 10. ascomata were developed.

Geopyxis.

256. **Geopyxis ammophila** Dur. & Mont., Syll. VIII [70].

J. "Few, almost entirely sandcovered specimens in loose Psamma-downs at Tannishus", August (F. & W. 07 [252]).

257. **Geopyxis catinus** (Fries) Sacc., Syll. VIII [71], Rehm III [972], Syn: Peziza cat. Fries S. M. II [61], Holmskj. 99 [22] tab. 8, Fl. D. tab. 2081 fig. 2, Pez. sphacelata Schum. no 2061, Pez. hypocrateriformis Hornem. Fl. D. tab. 1558 fig. 1, Terrine Skaallille (Holmskj.), Fadformig Bægersvamp (H. 37 [829]).

Sept., on the ground in fagineta. J. Aarhus (1765 Holmskj.); F. Tangeskov (Sehested abundant.); S. Søndermarken (Schum.).

258. **Geopyxis ciborium** (Fries) Sacc., Syll. VIII [64], Rehm III [974] & [1270], Syn: Peziza cib. Fries S. M. II [59], Fl. D. tab. 1078 fig. 1, Bægerdannet Skaallille (Viborg 93 [272]), Skaalformig Bægersvamp (H. 37 [829]), Lit: R 94 d [13].

F. Glorup (April 83 Lyman).

259. **Geopyxis cupularis** (Fries) Sacc., Syll. VIII [72], Rehm III [972], Syn: Peziza cupularis Fries S. M. II [62], Müller 1767 [225], Thekopformig Bægersvamp (H. 37 [829]), Klokke-Bægersvamp (R 69 [63]), Klokkeformet Bægersvamp (R 04 a [206]).

Not uncommon on the ground in woods. July—Sept.

260. **Geopyxis micropus** (Fries) Rehm III [975], Syn: Peziza micr. Fries S. M. II [54], Otidea micr. Sacc. Syll. VIII [98], Pez. gemmata Schum. no 2070, Fries S. M. II [85].

Is by Rehm considered a dubious species. Schumacher states that he has collected it from decayed trunks of Fagus in the Charlottenlund forest. April.

261. **Geopyxis tuberculosa** Sacc. & Cooke, Syll. VIII [67].

S. Copenhagen. In the Seed-inspecting Office (O. R.).

Discina.

262. **Discina abietina** (Fries) Rehm III [977], Syn: Peziza ab. Fries S. M. II [47], Syll. VIII [80], Otidea ab. (Pers.) Fuckel, Syll. XIV [746], Peziza integra Schum. no 2062, Fl. D. tab. 1853 fig. 1, Granens Bægersvamp (H. 37 [228]).

To be found on the ground in pineta, August—October, rare.

F. Svenborg; S. Birkerød (Schum.), Jyderup.

263. **Discina venosa** (Fries) Sacc., Syll. VIII [104], Rehm III [976], Syn: Peziza ven. Fries S. M. II [46].

S. Jægersborg (Breitung [19]/5 1908).

264. **Discina reticulata** (Fries) Sacc., Syll. VIII [100], Syn: Peziza ret. Fries. El. index [136], Discina venosa var: ret. (Grev.) Rehm III [978].

To be found on the ground in pineta, May; the largest specimens had a diam. of 10—11 cm.

F. Dalum & Vormark (Jak. Lge [20]/5 98).

265. **Discina ancilis** (Fries) Rehm III [979] c. icon., Syn: Peziza anc. Fries S. M. II [43], Discina helvetica Fuckel, Syll. VIII [103].

On stumps of Picea excelsa, May—October.

S. Frederiksdal (Muus), Boserup Skov (abundant [9]/5 94 F. K. R. see R 96 m [135] again Octob. 97 O. R.).

Acetabula.

266. **Acetabula leucomelas** (Fries) Boud., Syll. VIII [60], Rehm III [981], Syn: Peziza leuc. Fries S. M. II [44].

S. Svenstrup Skov ([19]/6 97 see R 97 n).

267. **Acetabula sulcata** (Fries) Fuckel, Syll. VIII [62], Rehm III [982], Syn: Peziza sulc. Fries S. M. II [44].

On the ground in woods, April.

F. Tommerup (Jak. Lge); S. Ermelunden ([28]/4 82 Raunkiær), Slagelse & Slotsbjergby (Sev. P.).

268. **Acetabula vulgaris** Fuckel, Syll. VIII [59], Rehm III [983] c. icon., Syn: Peziza acetabulum Fries S. M. II [44], Aaret Skaallille (Viborg 93 [271]), Pokal Bægersvamp (R 04 a [206]).

On moist ground in woods, rare. May—Sept.

F. Hjallese (Jak. Lge); S. Lillerød (H. M.), Frederiksdal (Müller 67 [225]), Bregentved (Rützou); Møen Vitmundsnakke.

Macropodia.

269. **Macropodia bulbosa** (Fries) Sacc., Syll. VIII [158], Rehm III [987], Syn: Peziza bulb. Fries S. M. II [58].

S. Geelskov ([23]/9 88 see R 89 h & Plowright 88).

270. **Macropodia macropus** (Fries) Fuckel, Rehm III [985], Syn: Peziza mac. Fries S. M. II [57], Schum. no 2066, Fl. D. tab. 1200 fig. 2, Helvella mac. (Pers.) Karsten, Syll. VIII [28], Peziza sublicia Holmskjold 99 [26] tab. X, Pælet Skaallille (Holmskj.), Storstokket Bægersvamp (H. 37 [829]), Graa Storfod (Sev. P. 95 [108]).

Not uncommon, particularly in old grass-fields. September.

Læsø!; J. Aarhus ([11]/9 1769 Holmskjold); S. Geelskov (E. W.), Charlottenlund & Bagsværd (Schum.), Sorø (Holmskj.), Slagelse (Jak. Lge).

Aleuria.

271. **Aleuria aurantia** (Fries) Fuckel, Rehm III [970] c. icon., Syn: Peziza aur. Fries S. M. II [49], Müller in Fl. D. tab. 657 fig, 2, Schum. no 2050, Syll. VIII [74], Peziza dichroa Holmskj. 99 [20] tab. 7, Tofarvet Skaallille (Holmskj.), Orangefarvet Bægersvamp (H. 37 [828]), Orange-Bægersvamp (R 69 [63] & Sev. P. 95 [109] c. icon.), Skarlagen Bægersvamp (R 79 [23]).

Rather common especially on moist clayey soil; is often found in groups in shady places from Septb.—Nov.

J. Krabbesholm Skov (C. H. O.), Søvang!, Aarhus (Holmskj.), Borris (abundant F. & W. 08); S. Rudersdal Mose (R 84 g), Geelskov (Rützou), Frederiksdal (Müller & Holmskj.), Jægersborg (R 90 n), Vestre Kirkegaard (O. R.), Botanisk Have, and in many other places.

272. **Aleuria bicucullata** (Boud.) Gill., Rehm III [969], Syn: Peziza bic. (B.) Sacc., Syll. VIII [75].

Møen Lilleklint (Nov. 05 O. R.).

Ascobolaceae.

Lasiobolus.

273. **Lasiobolus papillata** (Fries)!, Syn: Peziza pap. Pers., Fries S. M. II [88], Schum. no 2124, Pez. diversicolor Fries S. M. II [88], Pez. div.

var. luteosubferruginea Fries Fl. D. tab. 2082 fig. 1; Pez. strigosa Schum. no 2123 (not Fries S. M. II [103]), Elvella equina Müller Fl. D. tab. 779 fig. 3, Lasiobolus equinus Karsten, Rehm III [1096] c. icon., Syll. VIII [536], Fl. D. tab. 1918 fig. 2. Forskelligfarvet Bægersvamp (H. 37 [833]).

Common on dung of mammals (*Bos, Equus, Cervus, Canis, Oves* etc.), also on rich soil and decayed leaves (Hansen 76 [291]). April—July.

274. **Lasiobolus pulcherrimus** (Crouan) Schroeter, Rehm III [1098], Syn: Peziza pulch. Boud., Lachnea pulch. Cooke, Syll. VIII [181].

Quite common on dung of *Bos*, Sept.—Nov. (Hansen 76 [271]).

Ascophanus.

275. **Ascophanus cinerellus** (Karsten) Hansen 76 [291], Syll. VIII [532], Rehm III [1085].

Rather common on dung of *Bos* and *Cervus*, May—August (Hansen).

276. **Ascophanus cinereus** (Crouan) Boudier, Syll. VIII [531], Syn: Peziza cinerea Karst. not Batsch.

On old dung of *Equus*. S. Dyrehaven (March 74 see Hansen 76 [272]).

277. **Ascophanus granuliformis** (Crouan) Boud., Syll. VIII [530], Rehm III [1089].

Not uncommon on old dung of *Bos, Oves, Lepus*. J. & S. (Hansen 76 [291]).

278. **Ascophanus Holmskjoldii** Hansen 76 [290] c. icon., Syll. VIII [530], Rehm III [1092] c. icon., Syn: Asc. incanus (Phil.) Sacc., Syll. VIII [529].

On old dung of *Bos*, April—June.

279. **Ascophanus microsporus** (B. & Br.) Hansen, Syll. VIII [528], Rehm III [1088].

Not uncommon on old dung of *Bos;* autumn (Hansen 76).

280. **Ascophanus minutissimus** Boud., Syll. VIII [533].

Not uncommon on dung of *Bos* & *Oves*, summer.

J. Ribe & Manø (Hansen 76 [292]).

281. **Ascophanus nitidus** (Fuckel) Hansen 76 [291], Syll. VIII [529], Rehm III [1095].

Rather common on old dung of *Bos*, Aug.—Sept.

282. **Ascophanus ochraceus** (Cr.) Boud., Syll. VIII [531], Rehm III [1091].

Common on dung of *Bos*. May—August.

J. Hjortlund & Ribe; S. Charlottenlund (Hansen 76 [291]).

283. **Ascophanus subfuscus** (Crouan) Boud., Syll. VIII [532], Rehm III [1089].

Abundant on old human excrement, April, Nov.—Dec.
Amager Albertis Fabrik (Exs. Rbh. cent. XXI, Hansen 76 [292]).

284. **Ascophanus vicinus** Boud., Syll. VIII [530].
S. Næstved, a single specimen on old dung of *Lepus* Dec. 74 (Hansen 76 [291]).

Ascozonus.

285. **Ascozonus cunicularis** (Boud.) Renny, Syn: Rhyparobius argenteus Berk. & Br. Syll. VIII [543].
Most frequently the ascomata occurs rather scantily. On dung of *Canis, Lepus, Mus* etc. May.
S. Rudersdal. Holsteinborg, Ørsløv (Hansen 76 [297]).

Rhyparobius (Rhyparobius Sacc.).

286. **Rhyparobius crustaceus** (Fuckel) Hansen, Syll. VIII [539], Rehm III [1103] c. icon., Syn: Rhyparob. brunneus Boud., Syll. VIII [540] (see Hansen 76 [292]).
On old dung of *Bos, Canis, Oves.*
J. Ribe; F. Skaarup ([11]/4 65); S. København (Hansen).

287. **Rhyparobius dubius** Boudier, Syll. VIII [541].
Found only once on old dung of *Bos* near Ribe (July 74 see Hansen 76 [292]).

288. **Rhyparobius felinus** Boud., Syll. VIII [540].
On dung of *Lepus.* F. Skaarup ([11]/4 65).

289. **Rhyparobius myriosporus** (Cr.) Boud., Syll. VIII [540], Rehm III [1104], Syn: Chilonectria myr. (Cr.) Sacc., Syll. II [454].
Found only once near Klingstrup, F., June.

290. **Rhyparobius sexdecimsporus** (Cr.) Sacc., Syll. VIII [541], Rehm III [1100], Syn: Ascophanus sex. Boud.
On old dung of *Equus,* near Ribe (Hansen 76 [291]).

Boudiera.

291. **Boudiera microscopica** (Cr.) Cooke, Syll. VIII [513], Rehm III [1114], Syn: Ascobolus mic. Crouan.
On dung of *Canis,* abundantly near Hellebæk. S. (July 74 see Hansen 76 [294]).

Saccobolus.

292. **Saccobolus depauperatus** (Berk. & Br.) Hansen, Syll. VIII [525], Rehm III [1117].
On dung of *Bos, Equus, Oves.*
J. Ribe & Mano (Hansen 76 [293] c. icon.).

293. **Saccobolus Kerverni** (Cr.) Boud., Syll.VIII [524], Rehm III [1116].
On old dung of *Bos*, common in summer (Hansen).

294. **Saccobolus neglectus** Boud., Syll. VIII [526], Rehm III [1118].
On old dung of *Bos*, common in all parts of the country, all the year round (Hansen 76 [272]).

Ascobolus.

295. **Ascobolus aerugineus** Fries S. M. II [165], Syll. VIII [514], Rehm III [1125], Syn: Asc. marginatus Schum. no 2133, Fl. D. tab. 1856, fig. 3, Spanskgrøn Frøekaster (H. 37 [842]).
On dung of *Lupus* & *Equus*, May—August (Schum. & Hansen 76 [294]).

296. **Ascobolus Crouanii** Boud., Syll. VIII [522], Rehm III [1133] c. icon.
On brittle wood, S. Bagsværd ([17/10] 07 see F. & W. 09).

297. **Ascobolus glaber** Fries S. M. II [164], Syll. VIII [517], Rehm III [1121], Schum. no 2132, Fl. D. tab. 1856 fig. 1, Glat Frøekaster (H. 37 [842]).
Not uncommon on dung of *Bos* and other mammals (Hansen 76 [340]).

298. **Ascobolus immersus** Fries S. M. II [164], Syll. VIII [523], Rehm III [1127].
Common in all parts of the country on dung of *Bos, Equus* & *Oves*, August —Oct. (Hansen 76 [294]).

299. **Ascobolus furfuraceus** Fries S. M. II [163], Syll. VIII [516], Schum. no 2131, Fl. D. tab. 1856 fig. 2, Syn: Peziza viridis Schum. no 2125, Ascob. stercorarius (Bull.) Schroet., Rehm III [1126], Klidet Frøekaster (H. 37 [842]), Klidet Sækslynger (R 69 [67]), Lit: Hansen 76 [340].
Common on dung of *Bos* and other mammals, J., F., S., L.

300. **Ascobolus vinosus** Berk., Syll. VIII [518], Rehm III [1123].
Hansen (76 [294]) considers this species as well as Asc. aerugineus to be merely varieties in colour of Asc. furfuraceus.
On old, hard and dry dung of *Bos*, only few specimens in a field near Copenhagen, May 1874.

301. **Ascobolus carneus** Fries S. M. II [165], Syll. VIII [534], Rehm III [1094] c. icon.
On dung (Hansen 76 [340]).

Helotiaceae.

Sarcoscypha.

302. **Sarcoscypha coccinea** (Fries) Cooke, Syll. VIII [154], Rehm III [1071], Syn: Peziza cocc. Fries S. M. II [79], Skarlagen-Bægersvamp (H. 37 [832], R 69 [64], Sev. P. 95 [110]).

On fallen branches on the ground in forests in spring, not uncommon.

J. Krabbesholm Skov (! & C. H. O.); F. Broholm (Sehested), Klingstrup ($^{1}/_{1}$ 78), Vejstrup Aaskov.

303. **Sarcoscypha melastoma** (Fries) Cooke, Rehm III [1070], Syn: Peziza melastoma Fries S. M. II [80], Plectania mel. (Sow.) Fuckel, Syll. VIII [163], Sphaeria monocarpa Schum. no 1339 (see R 85 g [16]), Fl. D. tab. 2159 fig. 1.

Schumachers specimen is still existing in his herbarium (fasc. 24 no 14).

S. on fallen twigs (Schum.).

304. **Sarcoscypha radiculata** (Fries) Cooke, Syll. VIII [156], Rehm III [1073], Syn: Peziza rad. Fries S. M. II [81].

Sept.—Octob., on the ground. J. Vejlefjord Sanatorium (O. Hørring), S. Aasevang (O. R. and F. & W.), Jonstrup Vang (Exc. $^{13}/_{9}$ 03).

Chlorosplenium.

305. **Chlorosplenium aeruginosum** (Fries) de Not., Syll. VIII [315], Rehm III [753] c. icon., Syn: Elvella aer. Oeder Fl. D. tab. 534 fig. 2, Peziza aer. Fries S. M. II [130], Fl. D. tab. 1200 fig. 1, Schum. no 2106, Merulius aer. Schum. no 1919, Spanskgrøn Skaallille (Holmskj. 99 [28] tab. XII), Søgrøn Foldhat (Viborg 1793 [268]), Spanskgrøn Bægersvamp (H. 37 [839]).

It was first found in Denmark by Holmskjold near Aarhus September 11. 1765, but he did not publish his discovery until 1799. Oeder is the first one to describe and delineate this fine fungus in the "Flora Danica" 1769 from specimens brought back from Iceland by Koenig. Koenig is also sometimes mentioned as its author, this is incorrect for he has not described it; but in the succeeding year O. F. Müller published a new description in his "Flora Islandica". It may sometimes be found as completely circular, discoid specimens, sometimes as large irregularly auriculate ones like an Otidea; Schumacher has given different names to the two forms, and Rostrup (97 m [46]) also mentions that he has found the unilaterally developed ascomata of up to 2 cm. in height on twigs of Alnus near Frederiksdal.

Its conidial stage is called Dothiorina Tulasnei (Sacc.) v. Höhn 11 a [463].

Noticed on twigs and branches of *Alnus*, *Betula*, *Fagus*, *Quercus* and *Pirus* from all parts of the country.

Ciboria.

306. **Ciboria caucus** (Fries) Fuckel, Syll. VIII [202], Rehm III [756],

Syn: Peziza caucus Fries S. M. II [126], Fl. D. tab. 2084, Pez. anularis Schum. no 2057, Rakle Bægersvamp (H. 37 [838]).

On fallen catkins of Populus alba, April.

S. Charlottenlund (Schum.).

Rutstroemia.

307. **Rutstroemia bolaris** (Fries) Rehm III [765], Syll. VIII [204], Syn: Peziza bol. Fries S. M. II [112].

Fagus silvatica S. Frederiksdal ([27]/10 95).

308. **Rutstroemia firma** (Fries) Karsten, Rehm III [764] c. icon., Syn: Peziza firma Fries S. M. II [117], Ciboria firma (Pers.) Fuckel, Syll. VIII [203], Pez. explanata Holmskjold 99 [35] tab. XVIII, Pez. globosa Fries S. M. II [60], Schum. no 2065, Geopyxis glob. Sacc., Syll. VIII [64], Pez. alutacea Schum. no 2110, Fl. D. tab. 2275 fig. 1, Peziza tomentosa Schum. no 2088, Fl. D. tab. 1916 fig. 3, Fries S. M. II [79], Macropodia toment. Sacc., Syll. VIII [160] (see R 96 m [134]).

On dead twigs on the ground, Sept.—Nov.

Alnus incana J. Hald!. *Quercus robur* J. Viborg!, Havreballe & Myreholm Skove (Holmskj.); F. Skaarup; S. Friderichshvile near Birkerød (Schum.), Dyrehaven (Schum. & R.). *Ulmus.* J. Asmildkloster (Gad).

Sclerotinia.

This genus consists exclusively of true parasites and has, therefore, highly interested the phytopathologists; Rostrup often studied the species belonging to this genus, especially Sclerotinia trifoliorum, and has contributed much to our knowledge of the individual species. Also in sheer mycological respect, the individual species of Sclerotinia are of great interest.

The genus is to be divided into two strictly separated parts: the species with chlamydospores (Monilia) and the species without Monilia; as has also been suggested by Woronin (95); a third division set up by Woronin viz the heteroecious ones will of course be identical with those of the first one.

Boudier (85) divided the genus into two subgenera: Stromatinia (Pédicule naissant d'un stroma étalé) and Sclerotinia (Pédicule naissant d'un sclérote). Rehm. (III [804]) and Lindau (E. & P. 97 [197]) use the name of Boudier, Stromatinia in quite another way, referring to it all species of Sclerotinia forming sclerotia in fruits. This is quite an accidental character which does not deserve to be made the basis of the division and has the effect that Sclerotinia pseudotuberosa, alni and betulae which are just Eusclerotiniae are referred to Stromatinia.

I shall state all the more common species of Stromatinia and the corresponding forms of Monilia. As to some of the species, both

forms are regularly alternatingly developed, as to other species, it has been proved that the propagation depends almost alone on the Monilia, the ascigerous stage being somewhat accidental.

Sclerotinia	padi	corresponding to	Monilia	Linhartiana
—	fructigena	—	—	fructigena
—	Johnsonii	—	—	crataegi
—	mespili	—	—	necans
—	cinerea	—	—	cinerea
—	laxa	—	—	laxa
—	amelanchieris	—	—	amelanchieris
—	corni	—	—	corni (Reade 08)
—	angustior	—	—	angustior
—	polycodii	—	—	polycodii
—	Seaveri	—	—	Seaveri
—	vaccinii corymbosi	—	—	vaccinii corymbosi

Further the six following species of Sclerotinia on Vacciniaceae are corresponding to Monilia-forms to which no special names are given, they are: Sclerotinia megalospora, urnula, oxycocci, baccarum, rhododendri and ledi.

The species of the subgenus Eusclerotinia produce sclerotia in all parts of the host-plant, in roots, stems, leaves and fruits; the sclerotia are rounded and they only partly assume the shape of their surroundings. The propagation takes place by means of the ascospores, the growth of the mycelium plays, however, rather a considerable part in this section; the conidia which are either produced by the sclerotia itself or by the mycelium in the host are described as incapable of germinating, their significance is still unknown; several of the sclerotia have received special names; I shall state the more common species:

Sclerotinia	Curreyana	Sclerotium	junci Desm.	Sphacelia	Curreyana Grove (12)
—	scirpicola	—	roseum Fries	—	scirpicola F. & W. (11)
—	Duriaeana	—	sulcatum Desm.	—	ambiens (Desm.) Sacc.
—	bulborum	—	minutum Desm.		
—	sp.	—	cepivorum Berk.	—	allii Vogl
—	nervisequia	—	nervale Fries		
—	betulae				
—	alni		(Sphacelia see Maul Hedwigia 94[215])		
—	pseudotuberosa		Sphacelia (see Zopf. Mycot. March no 1880).		

Sclerotinia Candolleana Sclerotium pustula de Cand.
— echinophila
— ficariae
— tuberosa
— sclerotiorum — varium etc., (Sphacelia see Appel & Bruck 07 [191]).
— Fuckeliana — echinatum Fuck.
— trifoliorum
— subularis.

I must consider it quite inadmissible to use the name of Sphacelia which has been applied to a conidial form of a Pyronomycet, also for a conidial form of a Discomycet even if they are morphologically alike.

Although it has already been stated quite correctly by de Bary (66 [201]) that Sclerotinia sclerotiorum only produces ascomata and no Botrytis, several subsequent mycologists (for instance Schroeter 08 [63], Frank 96 [490]) maintain that Botrytis cinerea forms the conidial stage of Sclerotinia sclerotiorum as well as of Sclerot. Fuckeliana. In later years it has, however, been agreed that Sclerotinia sclerotiorum does not correspond to any form of Botrytis (see for instance R 02 a [547]). But in most systematic papers there prevails a great confusion as to Sclerotinia Fuckeliana of which most mycologists say that it is furnished with ascomata and Botrytis as well. Therefore I must point out — although this is no new thing — that Sclerotinia Fuckeliana (= Sclerotium echinatum) is a true Sclerotinia, which rather seldom is to be found on leaves of Vitis vinifera. Botrytis cinerea (= Sclerotium durum) is a common Hyphomycet which has no relation whatever to any known Sclerotinia nor is any species of Sclerotinia related to any Botrytis. The mistake originates in the fact that Sclerotium durum and Sclerotium echinatum are often found in the same substrate and that the mycelium of Botrytis is like that of Sclerotinia sclerotiorum (see Syll. VIII, Brefeld Heft. X [315], Ralph Smith in Botanical Gazette vol. 29 1900).

309. **Sclerotinia Curreyana** (Berk.) Karsten, Syll. VIII [198], Rehm III [821] c. icon.

Juncus conglomeratus. F. Kirkeby, Klingstrup ([25]/3 83 ascomata [20]/5—[4]/7). *Juncus effusus.* S. Gammelmosens nordøstre Hjørne (R 06 cc [357]).

310. **Sclerotinia scirpicola** Rehm III [822], Syll. XI [401].

The conidial stage is to be found July—Nov., ascomata May—June, sclerotia Aug.—May; is never sought in vain (See F. & W. 11 [290] c. icon.).

Scirpus lacustris. J., S. Usserød! (ascomata [9]/5), Funkedam (ascomata [20]/6 Wesenberg-Lund), Furesø (abundant); L. Stenskoven (sclerotia [5]/8 1862).

311. **Sclerotinia Duriaeana** (Tul.) Quel., Syll. VIII [199], Rehm III [820]. *Carex paniculata.* F. Stubbekøbing Gaassø ([28]/7 80).

311 b. **Sclerotinia Aschersoniana** P. Henn. & Ploettner, Syll. XVI [722].

O. Rostrup cultivated the sclerotied fruits for 1½ years before they produced ascomata, from July 1896 to May 1898.

Carex paludosa. S. Jægerhuset (O. R.). *Carex paniculata.* S. Trørød Mose (O. R.).

312. **Sclerotinia alni** Maul, Rehm III [1237], Lit: O. R. 97 [257], Bubak 04 c, R 97 m [47] & 02 a [552] c. icon.

Fig. 9. Sclerotinia alni.
Twigs of Alnus with affected catkins, 4 sclerotia with ascomata $\frac{4}{1}$, 2 asci, 3 ascospores. From R 02 a.

O. Rostrup cultivated the sclerotied fruits for 1½ years before they produced ascomata, from November 95 to March 97 and from October 96 to March 98. He believes the infection to take place in the buds in spring. I have found the ascomata in great abundance in the forests in February and March and watched them fling out ascospores in clouds at that time, so I must believe that the infection takes place during the blossoming of the trees which occurs just then. Both O. Rostrup and I have found a few ascomata on the male catkins.

Alnus incana. J. Undallslund! (Exs. Vgr.); S. JonstrupVang (Raunkiær), Gammelmose, Kobenhavn ([29]/12 95 O. R.), Falst. Boto Nor (R 99 b). *Alnus glutinosa.* J. Skagen, Sæby; S. JonstrupVang (Raunkiær), Vestre Kirkegaard (O. R.).

313. **Sclerotinia betulae** Woronin, Rehm III [1236], Lit: R 02 a [553].
Betula verrucosa. S. Lyngby Mose ([28]/6 04 O. R.), Damhussøen (Rafn); B. Hammershus & Helligdommen (Neger 06). *Betula papyrifera*. S. København (O. R.).

314. **Sclerotinia Candolleana** (Lév.) Fuckel, Syll. VIII [198], Rehm III [810], R 02 a [552], Syn: Peziza Cand. Lév., R 80 a [187], Sclerotium quercinum Schum. no 185, Bulet Beensvamp (H. 37 [851]).

The sclerotia may be found in abundance in autumn on leaves and twigs, especially on the trees which have been cut in summer, or on broken branches. Rostrup has cultivated those sclerotia (66 [216] c. icon.) making them produce ascomata in February and March; in the forest Rostrup found ascomata in June, and sclerotia which he placed for germination in June produced ascomata in July.

Quercus robur. J. Krabbesholm Skov!; F. Klingstrup, Skaarup ([27]/12 1865); S. Boserup, Sorø; L. Nakskov. *Castanea sativa*. J. Viborg (Gad).

315. **Sclerotinia pseudotuberosa** Rehm III [809] c. icon., R 02 a [552] c. icon., Syn: Ciboria pseud. Rehm, Syll. VIII [201].

Quercus robur. F. Dalum (Oct. 99 & again [4]/11 05 Jak. Lge); L. Hardenberg (April 97).

316. **Sclerotinia sclerotiorum** (Libert) Brefeld, Syn: Pez. scler. Libert 1837, R 71 [57], Pez. sclerotii Fuck., R 66 [214], Sclerotinia Libertiana Fuck., Syll. VIII [196], Rehm III [816] & [1268], R 92 j [57], 94 e [597] c. icon. & 02 a [547] c. icon. Sclerotium varium Pers., Fries S. M. II [257], Scler. ovatum Schum. no 1380, Scler. compactum de C., Fries S. M. II [258], Stængelforraadnelse (Wiegmann 39 [82]), Rapsens Meldrøjer (R 71 [57]), Rodfrugternes Bægersvamp (R 93 d [106] c. icon. & M. L. M. 08 [152]), Lit: Westerdijk 11.

Rostrup (66 [214]) cultivated the sclerotia in 1863; they produced ascomata in June of that year and again in April of the following year, as many as 25 ascomata on a single sclerotium; he names the ascomata Peziza clavata Pers., Fries S. M. II [122], which name is possibly synonymous with ours; Rostrup also cultivated "Sclerotium durum dipsaci Fries" from the receptacles of Dipsacus and succeeded in producing ascomata in April; he even tried to place "Sclerotium compactum helianthi de C" which had been kept dry for several years, on moist sand and succeeded in making it produce ascomata. Jak. Lange also cultivated sclerotia of heads of Helianthus and succeeded in making them produce ascomata.

The sclerotia belonging to this species are of very varying shape and size in proportion to the tissue of the host-plant; the largest and most regularly rounded shapes are found within the loosely built stalks of larger herbs, in the receptacle of Compositae where it was

already found by Troyel (1791), in roots of Brassica or fruits of Cucurbita. In the thin branches of Daucus sclerotia may sometimes be produced in abundance; Rostrup states that some kilogrammes were once brought to him of a size like that of the fruits of the Daucus and set free from the stalks merely by the thrashing of the Daucus.

In the stems of many greather herbaceous plants: *Beta, Brassica, Sinapis, Heracleum, Daucus, Carum* (R 92 b), *Phaceolus* (R 89 j [748], 92 j [57] c. icon. & 02 a [547] c. icon.), *Cucumis, Solanum, Dipsacus, Cichorium, Helianthus* (in the receptacle see Troyel 1791).

317. **Sclerotinia tuberosa** (Fries) Fuckel, Syll. VIII [195], Rehm III [814], R 02 a [551] c. icon., Syn: Peziza tub. (Hedw.) Bull., Fries S. M. II [58], R 66 [205], 69 [62], 71 a [44], Rutstroemia tub. Karst., Sev. P. 95 [108], Peziza radicata Holmskj. 99 [24] tab. 9, Rodfuld Skaallille (Holmskj.), Roeformet Bægersvamp (H. 37 [329]), Knoldet Langfod (Sev. P.), Knoldet Bægersvamp (R 69 [62], 71 a [44], 79 d [20]), Anemonens Knoldbægersvamp (R 04 a [210]).

Not uncommon, April—May.

Anemone nemorosa. J. Krabbesholm Skov!, Aarhus (1766 Holmskj.), Nebsager!; F. Skaarup, Klingstrup, Vejstrup Aaskov (R 79 d [20]); S. Geelskov (L. K. R.), Jonstrup Vang, Ermelunden (O. R.), Boserup (L. K. R.); Falst. Nykøbing (C. H. O.). *Anemone* sp. cult. S. København (M. Lorentzen see R 02 a [551]).

318. **Sclerotinia trifoliorum** Er., Syll. VIII [196], Rehm III [817], R 02 a [549] c. icon., Kløverens Bægersvamp (R 93 d [103] c. icon.), Lit: P. Nielsen 78.

Fig. 10. Sclerotinia trifoliorum.
a affected Trifolium pratense, b sclerotium with ascomata, c sclerotium with ascomata, enlarged, d ascus $\frac{300}{1}$.
From R 02 a.

Rostrup has made a very close study of this fungus and contributed much to its biology. He first found it in 1869 near Skaarup and mentioned it (71 [59]) as Peziza ciborioides, a name which Fries in S. M. II [118] has applied to a similar species which is, however, stated to be found "ad culmos". During the years 1885-1890 Rostrup made a great many experiments in cultivation in the field with this fungus which

surely is of great economical significance to the growing of Trifolium and other leguminous plants (see R 85 n [64], 90 i, 90 j, 90 k, 90 m, 94 e).

Westerdijk (11 [8]) has stated that Sclerotinia sclerotiorum is able to attack Trifolium; and in April 1912 I found that Sclerotinia trifoliorum, which had killed a Trifolium, also attacked Anthemis arvensis, growing close by, and produced sclerotia on its root. So it is necessary to test by exact experiments the special relation of these two fungi to their respective host-plants.

Very common. Ascomata Sept.—Nov.

Noticed on *Onobrychis viciaefolia, Anthyllis vulneraria, Trifolium repens, hybridum, pratense, Medicago lupulina* & *sativa* (M. L. M. 08 [156]).

319. **Sclerotinia fructigena** Norton 02, Aderh. 05 c. icon., Reade 08, Syll. VIII [40].

Ascomata have been produced by the mummified apples which had been kept for 1½ years on moist sand. J. Aarhus (E. Hall.).

Sclerotinia cinerea Schroet., Aderh. 05 c. icon. as well as

Sclerotinia Johnsonii (E. & E.) Rehm, Syn: Ciboria John. Ell. & Ev., Sclerot. crataegi Magnus

are the ascigerous stages of Monilia cinerea and Monilia crataegi respectively; they have not yet been found in Denmark, but may possibly be found as the corresponding forms of Monilia are common.

320. **Sclerotinia megalospora** Woronin, Syll. VIII [200], Rehm III [807].

Vaccinium uliginosum. S. Lillerød (Sept. 04 O. R.).

321. **Sclerotinia oxycocci** Woronin, Syll. VIII [200], Rehm III [805].

Oxycoccus palustris. S. Raavad (Aug. 04 O. R.), Lyngby Mose (O. R.), Gammelmose (R 06 cc [357]).

322. **Sclerotinia baccarum** (Schroet.) Rehm III [806], Syll. VIII [199].

Vaccinium myrtillus. J. Flade near Frederikshavn!, Madum Sø ([31]/7 98 F. K. R. see R 05 b [310]), Skive!, Silkeborg; S. Krogenborg Hegn, Gribskov, Tokkekøb Hegn, Ruderhegn (O. R. see R 05 b [310]); B. Hammerholm & Hammershus (Neger 06).

323. **Sclerotinia urnula** (Weinm.) Rehm III [804], Syn: Ciboria urnula W., Syll. VIII [202], Sclero. vaccinii Woron., Syll. VIII [200].

Vaccinium vitis idaea. J. Undallslund ([21]/6 06!).

Eriopeziza.

324. **Eriopeziza caesia** (Fries) Rehm III [696] c. icon., Syn: Peziza caes. Pers., Fries S. M. II [108], Tapesia caes. Fuckel, Syll. VIII [381].

On brittle wood of *Quercus robur.* J. Krabbesholm Skov!; L. Stensgaard. *Pirus malus silvestris.* J. Krabbesholm!.

Desmazierella.

325. **Desmazierella acicola** Libert, Syll. VIII [386], Rehm III [1041] c. icon.

On fallen leaves of *Pinus silvestris*. S. Tisvilde ([27]/5 00).

Dasyscypha.

326. **Dasyscypha pteridis** (Fries) Rehm III [846], Syn: Peziza pt. Alb. & Schw., Fries S. M. II [144], Trichopeziza pt. Rehm, Syll. VIII [423].

On dead fronds of *Pteridium aquilinum*. J. Thorsager Skov ([15]/5 04!).

327. **Dasyscypha pulverulenta** (Lib.) Sacc., Syll. VIII [462], Rehm III [850].

On fallen leaves of *Pinus montana*. J. Margrethelund ([13]/5 04!).

328. **Dasyscypha Willkommii** Hartig, Rehm III [832], Syn: Corticium amorphum Willk. (67 [167]) non Fries, Dasysc. calycina Fuckel partim., Syll. VIII [437], Lærkens Bægersvamp (R 79 b [69]), Lærkekræft (R 89 a [20] & 02 a [537] c. icon.).

Very common, a pernicious parasite on the stems and branches of Larix decidua. Rostrup found it in all parts of the country and often recorded its distribution and biology; he supposes that it was the attack of this fungus which destroyed all larger plantations of Larix in Denmark during the years 1840—50 (R 79 b [69]). Rostrup first noticed it near Viborg in 1874. Rostrup (83 d [250]) states a particularly severe attack on three-or-four-years-old Larix near Glorup on which occasion he noticed that a conidial stage of this fungus was like whitish warts, producing curved spermatia. The attack seemed to be dependent on meteorological circumstances (frost etc.); in plantations on the dunes of the North-Sea, this fungus completely prevents the cultivation of Larix (R 83 d); at Tisvilde its attacks are also very considerable (H. M. 90 [175]) especially in cold hollows (R 79 b).

Besides on *Larix decidua* it has a few times been noticed on *Larix sibirica*. J. Borridsø (Aug. 09 F. K. R.) and *Larix leptolepis* (F. K. R.).

329. **Dasyscypha calycina** (Fries) Fuckel, R 02 a [543], Syll. VIII [437] partim., Syn: Peziza cal. Schum. no 2079, Fl. D. tab. 1917 fig. 1, Pez. cal. f. Pini silvestris Fries S. M. II [91], Dasyscypha calyciformis (Willd.) Rehm III [834] c. icon., ? Peziza flava Schum. no 2059, Granens Bægersvamp (R 04 a [209]).

Rehm rejects the old, well-known name of calycina judging it to be a common name of several species which has often been used for other species than the present one; the latter supposition is, no doubt, quite correct, but according to my opinion it is not incontrovertible,

as there is no doubt as to which species Schumacher and Fries have dealt with. Vuillemin (88) has wrongly used the same name for another fungus which he calls Trichoscypha calycina (Schum.) Vuill.-Lachnellula cal. (Vuil.) Sacc., Syll. VIII [391]; its name has by Rehm been altered to Lachnellula "Schumanni" Rehm III [863] (I suppose it ought to have been Schumacheri).

Common on fallen twigs, dead branches and cones; it is by no means as pernicious as the above-mentioned one, still Rostrup often found it on cancer-like wounds of branches and trunks (see R 85 o [11], 90 a [199], 96 o [119]); the apothecia are chiefly developed in April—May, it may, however, also be found even from December till June.

Phoma abietina Hartig is supposed to be its conidial fructification (Rehm l. c.).

Picea excelsa. J. Palsgaard; S. (Schum.) and many other places. *Picea sitchensis* S. Asserbo Plantage. *Pinus silvestris* & *montana* common, *Pinus strobus.* J. Silkeborg!; F. Erholm. *Pinus austriaca.* S. Tisvilde (Helms). *Abies balsamea.* J. Feldborg (Helms). *Abies alba* common.

330. **Dasyscypha variecolor** (Fries)!, Syn: Peziza var. Fries S. M. II [100], Pez. sulphureo-caesia Schum. no 2114, Dasyscypha albolutea (Pers.) Rehm III [842], Trichopeziza alb. (P.) Sacc., Syll. VIII [412].

On wood, S. Gribskov (Oct. 90 O. R.).

331. **Dasyscypha cerina** (Fries) Fuckel, Syll. VIII [453], Rehm III [847] c. icon., Peziza cer. Pers., Fries S. M. II [92], Fl. D. tab. 1786 fig. 2, Pez. bicolor Schum. no 2085, Pez. biformis Fries, Fl. D. tab. 1620 fig. 2, Pez. marginata Holmskj. 99 [39] tab. 20, Randet Skaallille (Holmskj.), Voxfarvet Bægersvamp (H. 37 [834]), Voxgul Bægersvamp (R 04 a [208]).

On fallen twigs, cups etc., June—Nov.

Salix caprea. J. Daugbjerg!. *Corylus avellana.* F. Klingstrup, Skaarup; S. Bagsværd (Schum.), Dyrehaven; L. Stensgaard. *Fagus silvatica.* J. Knivholt!, F. Vejstrup.

332. **Dasyscypha radians** (Saut.) Rehm III [829], Syn: Trichopeziza rad. Sacc. Syll. VIII [429].

On twigs of *Berberis vulgaris.* J. Skive (! 20/3 96).

Dasyscypha virescens (Fries) Rehm III [1238], Syn: Peziza vir. A. & S., Schum. no 2119, Fries S. M. II [104], Fl. D. tab. 1785, Trichopeziza vir. (Schum.) Sacc., Syll. VIII [427], Grønlig Bægersvamp (H. 37 [836]).

A very dubious species which we had better exclude.

Lachnella.

333. **Lachnella corticalis** Fries S. V. [365], Syll. VIII [393], Rehm III [857], Syn: Peziza corticalis Pers. Fries S. M. II [96], Pez. granulaeformis Schum.

no 2126, Fl. D. tab. 1917 fig. 3, ? Peziza annulata Holmskj. 99 [30] tab. 13, Solenia annulata Fries, Ringstokket Skaallille (Holmskj.), Bark-Bægersvamp (H. 37 [835]).

On thick living bark, Oct.—January.

Fagus silvatica. J. Rindsholm (! 1/10 04). *Populus tremula.* J. Krabbesholm Skov!

334. **Lachnella papillaris** (Fries) Phill., Syll. VIII [394], Rehm III [857] & [1268], Syn: Peziza pap. Fries S. M. II [102].

Populus. F. Skaarup.

335. **Lachnella barbata** Fries S. V. [365], Syll. VIII [392], Rehm III [854] & [1268], Syn: Peziza barbata Kunze, Fries S. M. II [99], Gedeblad-Bægersvamp (R 04 a [209]).

May—June. *Rubus idaeus.* S. Skelskør!. *Lonicera xylosteum.* S. Aasevang (O. R.), Boserup Skov; Møens Klint (Exc. 12/6 09). *Lonicera iberica.* F. Skaarup (May 63).

Lachnum.

336. **Lachnum Rehmii** (Staritz) Rehm III [908] & [1269], Syn: Dasyscypha R. Sacc., Syll. VIII [466].

On dead stems of *Juncus squarrosus.* J. Skive (! 15/7 1902).

337. **Lachnum acutipilum** Karsten, Rehm III [870], Syn: Dasyscypha ac. Sacc., Syll. VIII [447].

On dead stems of *Arundo phragmites.* J. Hald Sø!, Kleitrup Sø (Lind 04); S. Sjæl Sø.

338. **Lachnum albotestaceum** (Desm.) Karst., Rehm III [903], Syn: Trichopeziza alb. Sacc., Syll. VIII [419].

May—September. *Calamagrostis arenaria.* S. Tisvilde. *Hordeum arenarium.* F. Tiselholt; S. Tisvilde (R 99 a [275]). *Secale cereale.* F. Skaarup (3/5 82).

339. **Lachnum patens** (Fries) Karsten var. sphaerocephalum (Wallr.) Karst., Rehm III [906], Syn: Dasyscypha patens Rehm, Syll. VIII [466], Peziza clandestina β patens Fries, S. M. II [94], ? Peziza uveata Schum. no 2105, S. M. II [126], Fl. D. 2034 [1].

Dactylis glomerata. J. Viborg!. *Calamagrostis arenaria.* J. Strandby (1/8 74). *Secale cereale.* J. Viborg!.

340. **Lachnum nidulus** (Fries) Karsten, Rehm III [892], Syn: Trichopeziza nid. Fuckel, Syll. VIII [408], Peziza nid. Kz. & Schum., Fries S. M. II [104], Konvallens Bægersvamp (R 69 [65]).

On dead stems of *Polygonatum multiflorum,* April—July, common.

341. **Lachnum niveum** (Fries) Karsten, Rehm III [879], Syn: Peziza niv. Hedwig, Fries S. M. II [90], Dasyscypha niv. Sacc., Syll. VIII [437].

On wood of *Fagus silvatica*. F. Klingstrup; S. Fredensborg, Charlottenlund (Decb. 63 Ørsted).

342. **Lachnum fuscescens** (Fries) Karsten, Rehm III [900], Peziza fusc. Pers., Fries S. M. II [95], Dasyscypha fusc. Rehm, Syll. VIII [461], Bøgeskaalens Bægersvamp (R 04 a [209]).

Sphaeridium vitellinum Fries is supposed to be its conidial fructification.

April—June. On fallen leaves of *Fagus*, S. Geelskov (O. R.). On cups of *Fagus*, S. Dyrehaven. On fallen leaves of *Quercus*, J. Hald!.

343. **Lachnum ciliare** (Fries) Rehm III [877], Syn: Peziza cil. Schrad., Fries S. M. II [89], Schum. no 2082, Fl. D. tab. 2032, Dasyscypha cil. Sacc., Syll. VIII [443], Trichopeziza capitata Sacc., Syll. VIII [417].

On fallen cups of *Fagus*. S. Geelskov & Aasevang (O. R.). On fallen leaves of *Fagus*. S. (Schum.).

Lachnum capillare (Fries) Rehm III [901], Syn: Peziza cap. Schum. no 2087, Fries S. M. II [89], Dasyscypha capillaris Sacc., Syll. VIII [461].

S. "In foliis dejectis fagineis, Geelskov, Octob." (Schum.); is a very dubious species.

344. **Lachnum calyculiforme** (Fries) Karsten, Rehm III [897], Syn: Peziza cal. Schum. no 2084, Fl. D. tab. 2032 fig. 2, Fries S. M. II [94], Dasyscypha cal. Sacc., Syll. VIII [454], Kopformig Bægersvamp (H. 37 [834]).

On branches of *Corylus avellana*. J. Gadholt (! [10/7] 03), Skive!.

345. **Lachnum patulum** (Fries) Rehm III [875], Syn: ? Peziza patula Schum. no 2081, Fries S. M. II [91], Fl. D. tab. 1854 fig. 3 (?), Dasyscypha pat. (Pers.) Sacc., Syll. VIII [443], Aaben Bægersvamp (H. 37 [834]).

On fallen leaves of *Quercus*, not uncommon.

346. **Lachnum bicolor** (Fries) Karsten, Rehm III [870] c. icon., Syn: Peziza bic. Bull., Fries S. M. II [92], Dasyscypha bic. Fuckel, Syll. VIII [439], Elvela minuta Müller Fl. D. tab. 779 fig. 2, Tofarvet Bægersvamp (H. 37 [834]).

Very common on branches of *Quercus* and *Crataegus*, April—June.

347. **Lachnum sulphureum** (Fries) Rehm III [891], Syn: Peziza sulph. Pers., Fries S. M. II [104], Fl. D. tab. 1918 fig. 2, Trichopez. sulph. Fuckel, Peziza sulphureo-caesia Schum. no 2114, not Trich. sulph. Sacc., Syll. VIII [401]. Bleggul Bægersvamp (H. 37 [835]), Svovlgul Bægersvamp (R 69 [65]).

Common on dead stems of herbacious plants; spring and autumn.

Urtica dioeca. F. Skaarup. *Umbelliferae*. S. Lyngby Mose & Ordrup Mose (O. R.). *Ononis spinosa*. J. Nebsager (O. R.). *Melampyrum vulgatum*. J. Aalbæk!.

348. **Lachnum leucophaeum** (Nyl.) Karsten, Rehm III [890] c. icon., Trichopeziza leuc. Rehm, Syll. VIII [402].

On dead stems of *Silene*. J. Randrup Skov!. *Sium latifolium*. F. Skaarup. *Anthriscus silvester* and *Malva neglecta*. J. Stensbæk!.

349. **Lachnum clandestinum** (Fries) Karsten, Rehm III [898], Syn: Peziza cland. Bulliard, Fries S. M. II [94], Dasyscypha cland. Fuckel, Syll. VIII [457], Skjult Bægersvamp (H. 37 [834]).

Very common on dead stems and branches of *Rubus idaeus*. June—Dec.

350. **Lachnum tiliae** (Peck)!, Syn: Trichopeziza til. Peck, Syll. VIII [428].

On branches of *Tilia parvifolia*, Møen Ulfshale [8/9].

351. **Lachnum echinulatum** Rehm III [876] c. icon., Syn: Dasyscypha ech. Sacc., Syll. VIII [444].

On fallen leaves of *Quercus robur*, J. Rimmen!, Hald!. *Acer pseudoplatanus*. F. Vejstrup.

352. **Lachnum virgineum** (Fries) Karsten, Rehm III [872], Syn: Peziza virg. Batsch, Fries S. M. II [90], Schum. no 2083, Fl. D. tab. 1440 fig. 2 & tab. 2274 fig. 3, Holmskj. 99 [31] tab. 4, Peziza parvula Wigg., Fl. D. tab. 1016 fig. 4, Peziza nivea Sow., R 69 [64], Snehvid Skaallille (Viborg 93 [272]), Spæd Skaallille (Holmskj.), Snehvid Bægersvamp (R 69 [64]).

On branches of *Fagus silvatica*. J. Silkeborg!; S. Jonstrup Vang. *Rubus idaeus*. J. Sæbygaard Skov (July 93 O. R.). *Sambucus nigra*. J. Margrethelund!.

Pithya *(Pitya Sacc.)*.

353. **Pithya cupressina** (Fries)!, Syn: Peziza cup. Fries S. M. II [135], Pitya cupressi (Batsch) Fuckel, Syll. III [209], Rehm III [926].

Juniperus prostrata. J. Viborg (Gad).

354. **Pithya vulgaris** Fuckel, Syll. VIII [209], Rehm III [925], Syn: Barlaea epichrysea (Beck) Sacc., Syll. VIII [115], Peziza pithya Schum. no 2119, Fries S. M. II [155].

Picea excelsa. S. (Schum.).

Cyathicula.

355. **Cyathicula coronata** (Fries) de Notaris, Syll. VIII [304], Rehm III [740], Syn: Peziza coronata Bulliard, Fries S. M. II [120], Phialea coronata Gill., Peziza denticulata Vahl, Fl. D. tab. 1016 fig. 3, Pez. subulata Schum. no 2060, Fl. D. tab. 1380 fig. 1, Fiintandet Skaallille (Viborg 93 [272]), Kronet Bægersvamp (H. 37 [837], R 69 [65] & 04 a [212] c. icon.).

On dead stems esp. of *Urtica dioeca* in Octob.—Nov., not uncommon.

F. Skaarup, Klingstrup; S. Ruderhegn (Schum.).

Belonium.

356. **Belonium pineti** (Fries) Rehm III [688] c. icon., Syn: Peziza pin. Batsch., Fries S. M. II [101], Helotium pin. Karst., Pseudohelotium pin. Fuckel, Syll. VIII [296]. Its conidial stage is called Linodochium hyalinum (Lib.) Høhnel (09 [1238]), Ldau IX [821], Syn: Pionnotes pinastri Karsten, Syll. X [730], Dendrodochium subtile Fautrey, Syll. XIV [1116], Cylindrosporium acicolum Bres., Syll. XI [584], All. VII [729].

On fallen leaves of *Picea excelsa*. F. Skaarup (abundantly R 79 b [82]).

Belonioscypha.

357. **Belonioscypha vexata** (de Not.) Rehm III [745] c. icon., Syn: Belonidium vex. de Not., Syll. VIII [503], Bel. moliniae de Not., Syll. VIII [497], Belonium subgibbosum (Ellis) Sacc., Syll. VIII [493].

Arundo phragmites. S. Gammelmose ([28]/9 94). *Molinia coerulea*. J. Gadholt!.

Pezizella.

358. **Pezizella conorum** Rehm III [663].

On cones of *Picea excelsa*. F. Klingstrup Søskov (Dec. 1862).

Pezizella carnea (Fries)!, Syn: Peziza carnea Fries S. M. II [135], Peziza subcarnea Schum. no 2091, Fl. D. tab. 2084 fig. 1, Helotium subc. Fries, Syll. VIII [240], Schroet. 08 [67], Pezizella subc. Rehm III [657], Kødfarvet Bægersvamp (H. 37 [840]).

S. "in ligno putrido *Betulae albae*, Nov." (Schum.).

Pezizella citrinula (Karst.) Sacc., Syll. VIII [288], Rehm III [680] & [1266], Syn: Peziza alba Schum. no 2038 (fide Cooke), Fl. D. tab. 1855 fig. 1, Phialea alba (Schum.) Rehm III [736].

I dare not express any opinion as to the question whether the fungi found by Schumacher are to be referred to the said two species of which the former one especially is of a very dubious existence.

S. "in foliis subputridis graminum. Octob." (Schum.).

Phialea.

359. **Phialea equisetina** (Quel.) Rehm III [739], Syn: Helotium eq. Quel., Syll. VIII [234].

The same hypothecium is first producing the conidial fructification called Hymenula equiseti Lib. (see Ldau IX [414]).

On stems of *Equisetum arvense*. J. Boller near Horsens ([23]/2 02 !). *Equisetum fluviatile*. J. Rødding near Viborg!.

360. **Phialea strobilina** (Fries) Sacc., Syll. VIII [256], Rehm III [722], Syn: Peziza strob. Fries S. M. II [125], Kogle-Bægersvamp (R 04 a [212]).

Common on fallen cones of *Picea excelsa*, July—Dec., noticed from: F. Glorup, Klingstrup ($^{24}/_{12}$ 61); L. Bøllesminde.

361. **Phialea amenti** (Fries) Quél., Syll. VIII [257], Rehm III [720], Syn: Peziza amenti Batsch, Fries S. M. II [127].

On the catkins of Salix, March—May. *Salix caprea*. J. Horsens!. *Salix cinerea*. F. Skaarup; S. Lyngby.

362. **Phialea lutescens** (Fries) Gill., Rehm III [713], Syn: Peziza lut. Hedw., Fries S. M. II [120], Fl. D. tab. 1440 fig. 1, Helotium lut. Fries S. V. [355], Syll. VIII [223].

On fallen twigs, J. Dvergetved (V. S.).

*363. **Phialea sordida** (Fuckel) Sacc., Syll. VIII [269], Rehm III [708].

On twigs of *Fagus* and *Corylus*, F. Klingstrup. *Quercus*. F. Broholm. *Rubus idaeus*. F. Skaarup ($^{20}/_{11}$ 1864).

364. **Phialea cyathoidea** (Fries) Gill., Rehm III [723], Syll. VIII [251], Syn: Peziza cyat. Bulliard, Fries S. M. II [124], Pez. caulicola Fries S. M. II [94], Fl. D. tab. 1918 fig. 3, Phialea caul. Rehm III [727], Dasyscypha caul. Sacc., Syll. VIII [463], Peziza tenerrima Holmskjold 99 [33] tab. 11 not Fries S. M. II [128], Pez. albomarginata Schum. no 2130, Phialea solani Sacc., Syll. VIII [252]. Fiin Skaallille (Holmskj.), Finstilket Bægersvamp (R 04 a [211]).

On dead stems of many herbacious plants, May—August.

Urtica, Rumex, Melandrium, Silene, Anthriscus, Solanum, Cirsium etc.

Helotium.

Helotium vaccineum Fries S. V. [355], Syll. VIII [213], Syn: Peziza vaccinea Schum. no 2108, Fries S. M. II [126], Fl. D. tab. 1971 fig. 1.

Only found by Schumacher "in stercore vaccino, aestate, rarius". Schumacher's description is found verbatim in Sylloge VIII.

365. **Helotium moniliferum** (Fuck.) Rehm III [790], Syn: Bisporella monilifera Sacc., Syll. VIII [479].

On *Bispora monilioides*, October—April. F. Klingstrup, Skaarup; S. Eskemose!, St. Hareskov (O. R.), Charlottenlund!.

366. **Helotium ferrugineum** Fries S. V. [356], Syll. VIII [233], Rehm III [785], Syn: Peziza ferruginea Schum. no 2100, Fl. D. tab. 2033 fig. 3, Fries S. M. II [134], Rustfarvet Bægersvamp (H. 37 [839]).

On dead trunks of coniferae, October.

Pinus montana. J. Tvorup Klit. *Pinus silvestris*. J. Birkebæk.

367. **Helotium robustius** Karsten, Syll. VIII [233].

Arundo phragmites. L. Juellinge Kohave ($^{19}/_{7}$ 95).

368. **Helotium virgultorum** (Fries) Karsten, Rehm III [782], Syn: Peziza virg. Vahl, Fl. D. tab. 1016 fig. 2, Pez. fructigena b. virg. Fries S. M. II [118], Phialea virg. Sacc. Syll. VIII [266], Peziza flavescens Holmskj. 99 [27] tab. 11, Pilens Bægersvamp (H. 37 [837]), Ris-Bægersvamp (R 69 [65]).

It may be this species which Kylling mentions (1688): "Fungus minimus flavescens infundibuliformе, Liden guul Svamp skabt som en Tract".

Common on fallen branches in moist thickets, f. inst. on *Salix, Corylus, Alnus, Ulmus, Rubus idaeus* etc., autumn.

369. **Helotium virgultorum** (Fries) K. var. fructigenum (Fries) Rehm III [783], Syn: Peziza fructigena Fries S. M. II [118], Schum. no 2067, Phialea fruct. Gill., Syll. VIII [265].

On fallen fruits and catkins of *Corylus, Fagus, Alnus,* not uncommon, autumn.

370. **Helotium epiphyllum** Fries S. V. [356], Syll. VIII [227], Rehm III [795], Syn: Peziza ep. Persoon, Schum. no 2099, Fl. D. tab. 2033 fig. 1, Fries S. M. II [137].

On rotten leaves of *Fagus silvatica.*

371. **Helotium calyculus** (Fries) Berk., Rehm III [786], Syn: Peziza cal. Schum. no 2102, Pez. cal. β infundibulum Fries S. M. II [130], Phialea cal. (Sow.) Gill., Syll. VIII [267], Skaallille-Bægersvamp (H. 37 [839]).

On roots of *Fagus,* S. Charlottenlund, July (Schum.).

372. **Helotium sublenticulare** Fries S. V. [355], Syll. VIII [231], Rehm III [784], Syn: Peziza citrina f. sublenticularis Hornem., Fl. D. tab. 1971 fig. 3, Pez. convexa Holmskj. 99 [34] tab. 16, Hvælvet Skaallille (Holmsk.).

On fallen twigs on moist ground. S. Trørød!.

373. **Helotium serotinum** Fries S. V. [355], Syll. VIII [222], Rehm III [781] c. icon., Syn: Peziza serot. Fries S. M. II [119].

On rotten branches of *Fagus silvatica,* S. Holte (E. C. Hansen).

374. **Helotium pallescens** Fries S. V. [355], Syll. VIII [216], Rehm III [790], Syn: Peziza pal. Fries S. M. II [132], Pez. elongata Schum. no 2103, Fl. D. tab. 2275 fig. 2, Bleg Bægersvamp (H. 37 [839]).

S. "in ligno putrido dejecto. Autumno" (Schum.).

375. **Helotium phiala** Fries S. V. [355], Syll. VIII [223], Rehm III [784], Syn: Peziza phiala Vahl, Fl. D. tab. 1078 fig. 2, Schum. no 2064, Fries S. M. II [129].

On fallen twigs of *Betula,* S. Bagsværd (Schum.).

376. **Helotium citrinum** Fries S. V. [355], Syll. VIII [224], Rehm III [772], Syn: Peziza cit. Hedw., Fries S. M. II [131], Schum. no 2107, Fl. D. tab.

1294 fig. 1, Pez. subsessile Schum. 2040, Øse-Skaallille (Viborg 93 [271]), Citrongul Bægersvamp (H. 37 [839] & R 69 [65]).

On fallen branches and stumps of *Alnus, Corylus, Quercus, Tilia, Fraxinus* etc. Sept.—Dec., common.

377. **Helotium lenticulare** Fries S. V. [357], Syll. VIII [225], Syn: Peziza lent. Bull., Fries S. M. II [133], Fl. D. tab. 1855 fig. 2, Helot. citrinum Fries var. lenticulari Fries S. M. II [133], Rehm III [773], Peziza nigripes Schum. no 2039 (see Hoffman, Bot. Zeit. 1860 [41]), Lindseformig Bægersvamp (H. 37 [839]), Linse-Bægersvamp (R 69 [66]).

Common on dead branches and twigs of *Fagus* and *Quercus*.

378. **Helotium scutula** (Fries) Karsten, Rehm III [792], Syn: Peziza scut. Persoon, Fries S. M. II [123], Phialea scut. Gill., Syll. VIII [266], Peziza stipitum Schum. no 2111.

Not uncommon on stems of greater herbs and twigs of Rubus, Octob.—Nov., noticed on *Urtica dioeca, Althaea officinalis* and *Rubus*. F. Klingstrup; S. Frederiksholm.

379. **Helotium sepium** (Desm.) Sacc., Syll. VIII [229].

Occurred on living branches of Crataegus monogyna, burst the bark making long cracks in it, in which the small ascomata were collected; it has formerly not been considered a genuine parasite (R 05 b [310]).

380. **Helotium eurotioides** Karsten, Syn: Pseudohelotium eurot. Sacc., Syll. VIII [297].

On dead stems of *Anthriscus silvester*. S. Utterslev Mose (May 03 O. R.).

381. **Helotium herbarum** Fries S. V. [356], Syll. VIII [217], Rehm III [778] c. icon., Syn: Peziza herb. Fries S. M. II [136], Nældens Bægersvamp (R 04 a [212]).

Fuckel and Jaap are regarding Hymenula vulgaris Fries being its conidial fructification, concerning an other conidial stage see Brefeld (Heft X [321]) and F. & W. 07 [251].

Common on dead stems of *Urtica dioeca*, Nov.—March., also on *Lythrum salicaria* F. Skaarup, and *Artemisia vulgaris* S. Lyngby!.

Helotium tuba Fries S.V. [355], Rehm III [791], Syn: Peziza tuba Bolt., Fries S. M. II [128], Phialea tuba Gill., Syll. VIII [261], Peziza ochracea Schum. no 2112, Fl. D. tab. 1971 fig. 2, Trompetformig Bægersvamp (H. 37 [838]).

According to Rehm a very dubious species.

Stamnaria.

382. **Stamnaria Persoonii** (Fries) Fuckel, Syn: Peziza P. Moug., Fries S. M. II [121], Stamnaria equiseti (Hoffm.) Sacc., Syll. VIII [620], Rehm III [466] c. icon.

Equisetum hiemale. F. Ringe (1/11 97!).

Ombrophila.

383. **Ombrophila nanella** Karsten, Syll. VIII [616].

No doubt the most southerly locality known in which this rare species is found.

On fallen leaves of *Picea excelsa*, J. Kroghede Plantage ([11]/8 04 M. L. M.).

384. **Ombrophila quisquiliaris** Karsten, Syll. VIII [617].

On fallen cones of *Pinus montana*, J. Silkeborg Lyng Sø, August.

385. **Ombrophila livida** (Karsten)!, Syn: Chlorosplenium lividum (A. & S.) Karsten, Syll. VIII [319], Ombrophila strobilina (A. & S.) Rehm III [482], Ciboria strob. Sacc., Syll. VIII [203], Rutstroemia bulgarioides (Rabenh.) Karst., (not Phialea strob. (Fries) Sacc., Syll. VIII [256] = Peziza strobilina Fries S. M. II [125] = Ombrophila strob. Karsten).

On cones of *Abies alba*, B. Almindingen ([3]/6 84). *Picea excelsa*, S. Grønnæs Skov.

386. **Ombrophila violacea** Fries S. V. [357], Rehm III [477], Syn: Omb. lilacea Sacc., Syll. VIII [614].

On *Sphagnum*, etc. S. Bøllemose (Aug. 91 Rützou), Lyngby Mose (Hjalmar Jensen see R 92 i).

Coryne.

387. **Coryne versiformis** (Fries) Rehm III [492], Syn: Peziza vers. Pers., Fries S. M. II [130], Chlorosplenium vers. Karsten, Syll. VIII [316].

On an old stump, S. Boserup (L. K. R.).

388. **Coryne sarcoides** (Fries) Tulasne, Syll. VIII [642], Rehm III [489] & [1262] c. icon., R 02 a [558], Syn: Bulgaria sarc. Jacquin, Fries S. M. II [168], R 69 [66], Peziza carnosa Vahl, Fl. D. tab. 1017 fig. 1, Pez. turbinata Vahl, Fl. D. tab. 1017 fig. 2, Pez. metamorpha Schum. no 2043, Tremella cylindrica Schum. no 2155, Acrospermum aeruginosum & cylindricum, Fl. D. tab. 1076 fig. 3 & 4, ? Clavaria galeata Holmskj. 90 [25] tab. X, Ombrophila sarcoides Karsten, R 80 a [119], Fedtet & Cylindrisk Støvkølle (Viborg 93 [270]), Den hjelmede Køllesvamp (Holmskj.), Kjød-Topsvamp (R 69).

Its conidial stage is called Pirobasidium sarcoides (Fries) Høhnel.

Very common on stumps and dead branches, Sept.–Dec., of *Fagus, Quercus, Prunus avium* (Frederiksdal!).

389. **Coryne atrovirens** (Fries) Sacc., Syll. VIII [641], Rehm III [485] c. icon., Syn: Peziza atr. Persoon, Fries S. M. II [141].

On dead decorticated twigs of *Rubus idaeus*, S. Skelskør ([8]/6 09!).

Mollisiaceae.

Tapesia.

390. **Tapesia torula** Fuckel, Syll. VIII [375], Rehm III [580].
On branches of *Salix cinerea*, covered with Fumago vagans; J. Viborg ([17]/2 03!).

391. **Tapesia hydrophila** (K.) Rehm III [586], Syn: Mollisia hyd. Karsten, Syll. VIII [345].
Arundo phragmites. S. Gammelmose (R 06), Utterslev Mose (O. R.); L. Engestofte ([4]/8 65).

392. **Tapesia fusca** (Fries) Fuckel, Syll. VIII [374], Rehm III [579], Syn: Peziza fusca Pers., Fries S. M. II [109].
Common, to be found all the year round on fallen twigs of many trees, noticed on *Alnus glutinosa & incana, Corylus avellana, Quercus robur, Pirus malus*, from J., F. & S.

393. **Tapesia prunicola** Fuckel, Syll. VIII [383], Rehm III [582].
Prunus spinosa. J. Knivholt!, S. Hammer!.

394. **Tapesia rosae** (Fries) Fuckel, Syll. VIII [374], Rehm III [581], Syn: Peziza rosae Pers., Fries S. M. II [109], Rosens Bægersvamp (R 04 a [213]).
Not uncommon on fallen twigs of *Rosa canina*.

395. **Tapesia fusco-umbrina** (Fries) Sacc., Syll. VIII [382], Syn: Peziza variecolor forma c., Fries S. M. II [100].
On dead stems of *Rubus idaeus*, S. Lyngby Mose ([20]/4 89 O. R.).

Trichobelonium.

396. **Trichobelonium Kneiffii** (Wallr.) Schroeter 08 [103], Syn: Tric. retincolum (Rabh.) Rehm III [592] & [1264], Belonium ret. Sacc., Syll. VIII [495].
Arundo phragmites. J. Non Molle (! Exs. Vgr.); S. Herløv!, Utterslev Mose (O. R.).

Mollisia.

397. **Mollisia puccinioidea** (de Not.) Sacc., Syll. VIII [349].
Carex paniculata, Falst. Blæsbjerg Molle.

398. **Mollisia riparia** Sacc., Syll. VIII [345].
Arundo phragmites. S. Lyngby Mose (April 89 O. R.).

399. **Mollisia arenarivaga** (Desm.) Phill. Syll. VIII [344].
Calamagrostis arenaria. J. Søndervig (E. W.); S. Tisvilde (R 99 a [274]).

400. **Mollisia arundinacea** (Fries) Phill., Syll. VIII [344], Rehm III [541] & [1264] c. icon., Syn: Eustegia arundinacea Fries El. II [112].

Phalaris arundinacea. J. Nebsager (July 91 O. R.). *Arundo phragmites.* J. Kleitrup (Lind 04); S. Sjælsø (O. R.); L. Engestofte.

401. **Mollisia leucosphaeria** Rehm III [545], Syll. X [16].
On straws of *Gramineae,* S. Eskemose Skov (June 03 O. R.).

402. **Mollisia atrata** (Fries) Karsten, Rehm III [529], Syn: Peziza at. Pers., Fries S. M. II [148], Pyrenopeziza at. Fuckel, Syll. VIII [354].
Asparagus officinalis. F. Svenborg. *Chamaenerium angustifolium.* J. Bangsbo!. *Filipendula ulmaria.* S. Lyngby Mose (O. R.).

403. **Mollisia Schumacheri** (Fries) Rehm 07 [545], Syn: Peziza Sch. Fries S. M. II [98], Fl. D. tab. 1785 fig. 1, Pez. Sch. Fries var: plumbea Cooke, Pez. fusca Schum. no 2120 non Pers., Trichopeziza fusca Sacc., Syll. VIII [414], Pez. coerulescens Schum. no 2121, Fl. D. tab. 1786 fig. 1.
On old wood of *Betula,* S. Ermelunden (O. R.)

404. **Mollisia cinerea** (Fries) Karsten, Syll. VIII [336], Rehm III [514] & [1263] c. icon., Syn: Peziza cinerea Batsch, Fries S. M. II [142], Pez. callosa Bull., Schum. no 2054, Fl. D. tab. 1490 fig. 1, Pez. obconica Schum. no 2097, Pez. plana Schum. no 2052, Pez. alni Schum. no 2055, Pez. pallida Schum. no 2098, Elvela pusilla Müller, Fl. D. tab. 779 fig. 1, Pez. Oederi Pers. Syn. [668], Pez. pusilla Fries S. M. II [143], Cyathicula pusilla Sacc. Syll. VIII [308], Askegraa Bægersvamp (H. 37 [840], R 69 [65]).
One of the most common species but rather inconspicuous; occurs both on timber, stumps of trees and fallen branches with and without bark.

405. **Mollisia lignicola** Phill., Rehm III [522] & [1263], Syn: Pyrenopeziza lign. Sacc., Syll. VIII [366].
On an oak-tree fence-pole. J. Dallerup Skov near Horsens ($^{4}/_{4}$ 07!).

406. **Mollisia melaleuca** (Fries) Sacc., Syll. VIII [337], Rehm III [519], Syn: Peziza mel. Fries S. M. II [150].
On wood of *Salix* & *Quercus,* F. Skaarup.

407. **Mollisia pulveracea** (Fuckel) Rehm III [532], Trichopeziza pulv. Fuckel, Syll. VIII [407].
On dead stems of *Filipendula ulmaria.* J. Bangsbo Skov!; S. Ordrup Mose ($^{8}/_{5}$ 03 O. R.).

408. **Mollisia revincta** Karsten, Syn: Mol. cinerea var. minutella Sacc. & var. revincta Sacc., Syll. VIII [337], Mol. minutella (Sacc.) Rehm f. spiraeicola Rehm. III [526].
On dead stems of *Filipendula ulmaria.* J. Bangsbo Skov ($^{27}/_{7}$ 06!).

Niptera.

409. **Niptera agrostematis** (Fuck.) Rehm III [557], Syn: Pyrenopeziza agr. Fuck., Syll. VIII [363].

Its conidial stage is called Marssonina Delastrei.
On dead stems of *Dianthus armeria*. L. Stensgaard.

Belonidium.

410. **Belonidium lacustre** (Fries) Phill., Rehm III [569], Syn: Peziza lac. Fries S. M. II [143], Mollisia lac. Fuckel, Syll. VIII [345].
Scirpus lacustris. J. Lyng Sø near Silkeborg.

Belonopsis.

411. **Belonopsis excelsior** (Karsten) Rehm III [572], Syn: Mollisia ex. Karst., Syll. VIII [353].
Arundo phragmites. S. Gribskov (June 03 O. R.).

Pseudopeziza.

412. **Pseudopeziza calthae** (Phill.) Rostrup 96 m [133], Syn: Fabraea Rousseauana Sacc. & Bom., Syll. X [50], Rehm III [600].
Caltha palustris. J. Klitmøller (July 94); L. Juellinge Kohave.

Pseudopeziza ribis Klebahn 06.
Although the ascomata have not yet been found in this country, we must expect them to be found on fallen leaves of Ribes the conidial form, Gloeosporium ribis, being so very common.

413. **Pseudopeziza trifolii** (Fries) Fuckel, Syll. VIII [723], Rehm III [597] c. icon., Syn: Ascobolus trif. Biv. Bern., Fries S. M. II [165], Phacidium trif. Boud., R 71 [61], Kløverens Skivesvamp (R 93 d [111], 02 a [537]).
Its conidial stage is called Sporonema phacidioides Desm. (see Tul. carp. III [141] & Bref. Unters. X [325]).
Very common on living leaves of *Trifolium medium, pratense, repens, striatum*.

414. **Pseudopeziza medicaginis** (Lib.) Sacc., Syll. VIII [724], Syn: Ps. trifolii f. medicaginis (Lib.) Rehm III [598], Lucernens Skivesvamp (M. L. M. 07 [133] & 08 [156]), Lit: R 00 n.
Its conidial stage is called Sporonema aestivale Tulasne.
Very common July—September, also to be found from April to November, on living and fading leaves of *Medicago sativa & lupulina*.

Fabraea.

415. **Fabraea ranunculi** (Fries) Karsten, Rehm III [601], Syn: Dothidea ran. Fries S. M. II [562], Pseudopeziza ran. Fuckel, Syll. VIII [726], Ranunkel-Skivesvamp (R 04 a [211]).
July—October, on living and fading leaves of Ranunculus.

Ranunculus acer. E. Svenborg; S. Tisvilde, Villingebæk, Lyngby (F. K. R.). *Ranunculus repens.* J. Krabbesholm Skov!, Feldborg; S. København, Boserup Skov!, Ørsløv (P. N.); B. Almindingen. *Ranunculus auricomus.* S. Jonstrup, Hylleholt.

416. **Fabraea cerastiorum** (Fries) Rehm III [600], Syn: Peziza cer. (Wallr.) Fries S. M. II [153], Pseudopeziza cer. Fuckel, Syll. VIII [725].

July—Sept., on living leaves and stems of Cerastium; the mycelium penetrating the host entirely.

Cerastium caepitosum, J. Skive!, Lund near Horsens!; F. Ryslinge!, Klingstrup ($^3/_9$ 79); Lang. Carlseje; Møens Klint.

Pyrenopeziza.

417. **Pyrenopeziza multipuncta** (Peck) Sacc., Syll. VIII [369].

Carex leporina. Fænø (July 87).

418. **Pyrenopeziza caricis** Rehm III [633] c. icon., Syn: Pyr. Karstenii Sacc. var. caricis Rehm, Syll. VIII [367].

On dead leaves of *Carex,* S. Tokkekøb Hegn (May 05 O. R.).

419. **Pyrenopeziza radians** (Rob.) Rehm III [620], Syn: Pyr. campanulae Fuckel, Syll. VIII [357].

On fading leaves of *Campanula trachelium,* J. Tamdrup ($^{20}/_4$ 02!).

420. **Pyrenopeziza polymorpha** Rehm III [619], Syll. XI [409].

Galium mollugo, Amager Fælled (June 05 O. R.).

421. **Pyrenopeziza nigrella** Fuckel, Syll. VIII [357], Rehm. III [627].

On dead stems of *Galeopsis tetrahit,* J. Viborg ($^8/_7$ 04!).

422. **Pyrenopeziza plantaginis** Fuckel, Syll. VIII [364], Rehm III [625].

On fading or dead leaves and stems of Plantago Octob.—June.

Plantago lanceolata. J. Viborg (! Exs. Vgr. no 1428); F. Skaarup. *Plantago media.* S. Helene Kilde. *Plantago maritima.* S. Fredrikssund (Exc. $^8/_{10}$ 11).

423. **Pyrenopeziza compressula** Rehm III [624], Syll. XI [409].

On dead stems of *Scabiosa columbaria* (hosp. nov.), Møens Klint (Aug. 88).

Beloniella.

424. **Beloniella graminis** (Desm.) Rehm III [643] & [1265] c. icon., Syn: Belonium graminis (Desm.) Sacc., Syll. VIII [493], Mollisia graminis Desm. non Karst., Græssernes Bægersvamp (R 04 a [213]).

On dead leaves and stems of Gramineae, July.

Aira caespitosa. S. Bromme Plantage. *Avena pratensis.* S. Tisvilde Hegn. *Molinia coerulea.* J. Sæby!. *Hordeum arenarium.* Læsø!, Haastrup Vig!; S. Tisvilde.

425. **Beloniella brunellae** Lind 07 c [274], Rehm 07 b [466], see figg. 16—18 tab. II.

Its conidial stage is Asteroma prunellae Purton.

On living stems and leaves of *Brunella vulgaris*, March—April. J. Silkeborg ($^{7}/_{3}$ 07! Exs. Vgr. no 1331 & Rehm no 1728), Klank!.

426. **Beloniella biseptata** F. & W. 07 [252] c. icon. & 09 [311].

On dead leaves of *Veronica serpyllifolia*, J. Borris (F. & W.).

427. **Beloniella galii veri** (Karsten) Rehm III [640], Syn: Pyrenopeziza galii veri Sacc., Syll. VIII [356], Ephelina galii (Lasch.) Sacc., Syll. VIII [580], Phacidium verrucosum (Wallr.) Sacc., Syll. VIII [717].

Galium verum, S. Ruderhegn (May 10. O. R.).

428. **Beloniella brevipila** (Rob. & Desm.) Rehm III [641], Syn: Trichopeziza brev. Sacc., Syll. VIII [404].

Centaurea scabiosa, F. Skaarup (May 82).

Orbilia.

429. **Orbilia xanthostigma** Fries S. V. [357], Syll. VIII [629], Rehm III [455], Syn: Peziza x. Fries S. M. II [146].

On stumps of *Picea excelsa*, August—Sept. Thorseng Bregninge; L. Juellinge, Bøllesminde.

430. **Orbilia chrysocoma** (Fries) Sacc., Syll. VIII [624], Rehm III [457], Syn: Peziza chrys. Fries S. M. II [140], Pez. subplana Schum. no 2051, Guld-Bægersvamp (H. 37 [840]).

On rotten wood of *Picea excelsa*. S. (Octob. Schum.).

431. **Orbilia rubella** (Fries) Karst., Syll. VIII [621], Rehm III [458], Syn: Peziza rub. Fries S. M. II [141].

On bark, S. Frederiksdal Skov ($^{21}/_{9}$ 90 O. R.).

432. **Orbilia coccinella** (Fries) Karst., Syll. VIII [628], Syn: Peziza coc. Fries S. M. II [125].

On decayed wood, Sept.—January.

Salix, F. Skaarup. *Quercus*, L. Stensgaard. *Fagus*, F. Skaarup.

Calloria.

433. **Calloria fusarioides** Fries S. V. [359], Syll. VIII [639], Rehm III [463] & [1261] c. icon.

Common on dead stems of *Urtica dioeca*, March—May, its conidial stage is called Cylindrocolla urticae (Fries) Bon. (see Brefeld 91 [305]).

Celidiaceae.

Arthonia.

434. **Arthonia dispersa** (Schrader) Rehm III [437], Syll. X [77].
On bark of *Quercus robur*, F. Klingstrup (see D. B. 69 [246]).

435. **Arthonia punctiformis** Ach., Syll. X [77], Rehm III [435].
This species as well as the preceding one was formerly considered a lichen, so it is not to be found in Fries S. M.
Common on younger branches of various trees (see D. B. 69 [247]).

Celidium.

436. **Celidium lichenum** (Fries) Rehm III [1261], Syn: Dothidea lich. Sommerf., Fries El. II [123], Celidium stictarum (de Not.) Tul., Syll. VIII [743], Rehm III [426] c. icon., Lav Vorteplet (H 37 [873]).
Sticta pulmonacea. J. Hald Bøgeskov, Rindsholm ([29]/4 85 Gad).

437. **Celidium varians** (Dav.) Arnold, Syll. VIII [742] & X [76], Rehm III [428], Syn: Arthonia varians Nyl.
Its conidial fructification is called Coniosporium physciae (Kalchb.) Sacc.
On *Lecanora sordida* (see D. B. 69 [200]).

Sphinctrina.

438. **Sphinctrina turbinata** Fries S. V. [366], Syll. VIII [829], Rehm III [390], Syn: Calicium turbinatum Fries El. II [148].
On *Pertusaria communis*, very common. May—October, noticed from J., F., Lang. (see D. B. 69 [253]).

Coniocybe.

439. **Coniocybe nivea** (Fries) Rehm III [396], Syn: Trichia nivea Hoffm., Fries S. M. III [189], Roesleria hypogaea Thüm,, Coniocybe pallida (Pers.) Fries, Roesleria pallida Sacc., Syll. VIII [826].
Is common on roots of several plants; it was formerly considered a dangerous parasite (R 96 o [118] & 02 a [259]), now it is almost considered a harmless saprophyte (Lindau 08 [233]).
Ulmus campestris. S. Ordrup (Raunkiær see R 94 f). *Vitis vinifera*. S. København (1875 Didrichsen see R 84 j). *Prunus avium*. J. Aalborg (F. K. R. see R 94 f).

Acolium.

440. **Acolium sessile** (Pers.) Rehm III [398], Syn: Ac. stigonellum Ach. Syll. VIII [839].
On wood, S. Geelskov (Oct. 89 O. R.).

Calicium.

~~441~~. **Calicium salicinum** Persoon, Rehm III [410], Syn: Cal. trachelinum Ach. Syll. VIII [838], ? Cal. corylinum Schum. no 1367 & Cal. fagineum Schum. no 1366.
On wood. S. Klampenborg ([21]/3 11!).

Patellariaceae.

Patellea.

~~442~~. **Patellea commutata** (Fuckel) Sacc., Rehm III [281] c. icon., Syn: Durella com. Fuckel, Syll. VIII [790].
Salix caprea. S. Frederiksdal ([5]/10 11!).

~~443~~. **Patellea sanguinea** (Fries) Rehm III [284], Syn: Peziza sang. Pers., Fries S. M. II [110], Tapesia sang. Fuckel, Syll. VIII [371].
On wood of *Quercus robur*. F. Skaarup; S. Charlottenlund.

Durella.

~~444~~. **Durella compressa** (Fries) Tul., Syll. VIII [790], Rehm III [287] c. icon., Peziza comp. A. & S., Fries S. M. II [152], Schum. no 2092.
On dead branches. S. (Schum.). September.

~~445~~. **Durella connivens** (Fries) Rehm III [288] c. icon., Syll. VIII [790], Syn: Peziza con. Fries S. M. II [151].
On wood of *Salix, Fagus* & *Quercus*. J. Krabbesholm Skov!; F. Skaarup; S. Klampenborg!.

Nesolechia.

~~446~~. **Nesolechia oxyspora** (Tul.) Mass., Syll. X [53], Rehm III [515] c. icon.
On *Cetraria juniperina*. F. Klingstrup (see D. B. 69 [181] "Scutula sp.").

Karschia.

~~447~~. **Karschia lignyota** (Fries) Sacc., Syll. VIII [779], Rehm III [346] c. icon. Syn: Patellaria lign. Fries S. M. II [150].
On dead wood of *Quercus* & *Tilia*. F. Skaarup; S. Horsholm!.

Abrothallus.

~~448~~. **Abrothallus parmeliarum** Nyl., Syll. VIII [733], Rehm III [359], Syn: Ab. Schmithii Tulasne.

On *Cetraria saepincola*. J. Ormholt (D. B. 69 [180]). *Parmelia saxatilis*. F. Røskebølle ([5]/12 65). *Parmelia olivacea*. J. Palstrup (D. B.).

Patellaria.

449. **Patellaria proxima** Berk. & Br., Rehm III [331], Syn: Durella parvula Sacc., Syll. VIII [793].

On old wood of *Fagus silvatica*. S. Klampenborg ([21]/3 1911!).

450. **Patellaria inclusa** Karsten, Rehm III [333], Syn: Odontotrema inc. Karsten, Syll. VIII [680].

Corylus avellana. S. Klampenborg ([1]/12 09!).

451. **Patellaria atrata** Fries S. M. II [160], Rehm III [334] c. icon., Syn: Peziza atr. (Hedw.) Schum. no 2056, Lecanidion at. Rabenh., Syll. VIII [795].

Quercus. F. Glorup, Hvidkilde; L. Banholm. *Fagus*. Æbelø. *Corylus*. S. Charlottenlund!. *Crataegus*. S. Ermelunden (O. R.). *Pirus malus silvestris*. J. Krabbesholm Skov!. *Prunus spinosa*. J. Krabbesholm Skov!. *Prunus avium*. L. Stensgaard.

452. **Patellaria anceps** (Pass.), Syn: Lecanidion anc. Passer., Syll. VIII [796].

On dead twigs of *Liguster*. L. Stensgaard.

453. **Patellaria triseptata** (Karsten) Sacc., Syll. VIII [787].

Prunus avium. F. Skaarup ([10]/6 82).

Scutularia.

454. **Scutularia multiguttulata** Rostrup 92 g [76], Syll. XI [435], see fig. 19 tab. II.

Ascomatibus superficialibus, sparsis, subcoriaceis, brunneo-nigrescentibus, disco convexo, margine integro. Ascis e basi tenuatis, clavatis, paraphysatis, 120—140 μ × 10—12 μ, 4-sporis; sporidiis aciculari-bacillaribus, rectis, hyalinis, multiguttulatis, 75—90 μ × 3—4 μ.

On cord-wood of *Fagus*, J. Jægersborg Dyrehave ([28]/12 1891).

Bactrospora.

455. **Bactrospora dryina** (Ach.) Mass. Syll. X [67], Rehm III [344], Fl. D. tab. 2820 fig. 2, Syn: Schizoxylon dryinum Nylander.

On the bark of old *Quercus robur*. S. Charlottenlund (Grønlund see D. B. 69 [249]).

Biatorella.

456. **Biatorella difformis** (Fries) Wainio, Rehm III [306], Syn: Tromera dif. Rehm, Syll. VIII [469], Peziza dif. Fries S. M. II [151], Tromera sarcogynoides Mass., D. B. 69 [241].

On resin of *Picea excelsa*. F. Holstenshus, Tiselholt.

457. **Biatorella resinae** (Fries) Mudd., Rehm III [306], Syn: Peziza res. Fries S. M. II [149], Tromera res. Kørber, Syll. VIII [469].

On resin of *Pinus austriaca*. J. Bordrup (Bang).

Cenangiaceae.

Cenangium.

The conidial fructifications related to the species of Cenangium are included in the Excipulaceae, f. inst.:

Cenangium ferruginosum corresp. to Excipulina pinea (see v. Høhn. 03 & Tul. Carp. III [160]).

Cenangium padi — Dothichiza padi.

458. **Cenangium ferruginosum** Fries S. M. II [187], Syn: Cen. abietis (Pers.) Düby, Syll. VIII [560], Rehm III [227] & [1255], R 02 a [535], Rustfarvet Huulsvamp (H. 37 [844]).

Quite common on twigs of Coniferae, all the year round.

Abies alba. B. Almindingen. *Pinus silvestris*. J. Ulfborg (Jeppesen); Thorseng Vindeby ([12]/6 1878); S. Tisvilde. *Pinus montana*. J. Tvorup Klit, Feldborg, Margrethelund; S. Uglerup. *Pinus austriaca*. J. Sjørring Sø; F. Rønninge Søgaard; S. Geelskov (O. R.). *Pinus strobus*. F. Kirkeby.

459. **Cenangium acicolum** (Fuckel) Rehm, Syll. VIII [561], Rehm III [228].

On the leaves of *Pinus montana*. J. Margrethelund. *Pinus austriaca*. J. Feldborg (Gad), Frederikshaab; F. Brændeskov; S. Vinderød.

460. **Cenangium pinicolum** (Fries)!, Syn: Peziza pinicola β caespitosa Fries S. M. II [113], Cenangium farinaceum (Pers.) Rehm III [226], Syll. VIII [562].

On dead twigs of *Pinus silvestris*. J. Mosskov ([16]/9 92).

461. **Cenangium impudicellum** Karsten, Syll. VIII [567].

On the bark of *Picea excelsa*. B. Almindingen (R 06 dd [376]).

462. **Cenangium furfuraceum** (Fries) de Not., Syll. VIII [565], Rehm III [219] & [1255], Syn: Peziza furf. Roth., Fries S. M. II [76].

On twigs of *Alnus glutinosa*. J. Hornslet ([26]/12 08 see F. & W. 09 [315]).

463. **Cenangium fissum** (Fries) Rehm III [222], Syll. VIII [569], Syn: Peziza fissa Fries S. M. II [75].

Ascomatibus subcaespitosis, ex rimis corticis erumpentibus, sessilibus vel brevissime stipitatis, extus brunneo fuscis furfuraceo—strigosis, disco concavo, marginato, lacteo, 2 mm lato; ascis clavato-cylindraceis,

56—60 μ × 5—6 μ, 8 sporis, sporidiis ovato-oblongis, hyalinis 9—12 μ × 3—4 μ.

On dead branches and twigs of *Corylus* and *Crataegus*, F. Svenborg ($^{14}/_{12}$ 11!).

464. **Cenangium ligni** Desm., Rehm III [224], Syn: Pyrenopeziza ligni Sacc., Syll. VIII [366].

On old wood of *Fagus silvatica*. S. Klampenborg ($^{21}/_{3}$ 11!).

465. **Cenangium tiliaceum** (Fries) Karsten, Syll. VIII [566], Rehm III [222] & [1255], Syn: Peziza til. Fries S. M. II [76].

On dead branches of *Tilia europaea*. J. Viborg ($^{1}/_{3}$ 06!).

466. **Cenangium sarothamni** Fuckel, Syll. VIII [558], Rehm III [223].

On dead twigs of *Ulex europaeus* (hosp. nov.), J. Silkeborg ($^{9}/_{12}$ 06!).

467. **Cenangium fascicularis** (Fries)!, Syn: Peziza fasc. Fries S. M. II [75], Cenangium populneum (Pers.) Rehm III [220] & [1255] c. icon., Syll. VIII [565], Bundtformig Bægersvamp (H. 37 [832]).

On dead branches of *Fraxinus excelsior*. S. Avderød.

Crumenula.

468. **Crumenula pinicola** (Fries) Karsten, Syll. VIII [600], Rehm III [236] c. icon., R 02 a [558], Syn: Peziza pinic. Reb., Fries S. M. II [113], Sphaeria angustata Schum. no 1309, Fries S. M. II [419] (according to the original specimen in Schumachers herbarium).

On barked branches and stems of *Pinus montana*. J. Tvorup Klit (Bang), Palsgaard (R 85 o [11]); F. Mullerup (F. K. R.); S. Asserbo Overdrev. *Pinus austriaca*. J. Bordrup (Aug. 82. Bang). *Pinus strobus*. J. Silkeborg Vesterskov.

Dermatea.

Most species of this genus are provided with a conidial form of fructification which has been described as an autonomous species. The conidial form of other species has no special name, I have for instance with Dermatea quercina found a very abundant production of a conidial fructification of a Myxosporium-like shape.

Dermatea eucrita — Micropera abietis (according to Rostrup's diaries)
— ariae — Micropera sorbi
— micula — Micula Mougeotti.

Micula is very closely connected with Micropera. Another part of the species includes forms corresponding to Sphaeronema:

Dermatea prunastri corresp. to Sphaeronema spurium (see Tul. Carp. III [159]). I have also often found them on the same plant.

Dermatea frangulae — Sphaeronema versiforme.
— vernicosa — — polymorphum.
— ariae — — conicum (see Tul. Carp. III [160]).
— padi — — brunneo viride.

469. **Dermatea picea** (Fries) Rehm III [257] & [1257], Syn: Peziza pic. Pers., Fries S. M. II [97], Cenangella picea Sacc. Syll. VIII [588].
Abies alba, killing the young shoots, S. Geelskov ([27]/3 08!).

470. **Dermatea eucrita** (Karsten) Rehm III [255], Syn: Dermatella euc. Sacc., Syll. VIII [491].
Stilbella Rehmiana (Rbh.) is also considered its conidial stage.
On the bark of *Abies alba*. S. Grevinge Skov. *Picea excelsa* and *Pinus silvestris*. S. Jyderup Plantage. *Pinus montana*. J. Birkebæk. *Pinus strobus*. J. Silkeborg (! Exs. Vgr. no 1333); S. Geelskov (O. R.), Vrangsgaard (F. Lyman).

471. **Dermatea carpini** Fries S. V. [362], Syn: Derm. carpinea (Pers.) Rehm III [250] & [1257] c. icon., Pezicula carp. Tul., Syll. VIII [310], R 02 a [558].
On the stems of *Carpinus betulus*, S. Uggerløse; L. Stenskov ([4]/8 79 in abundance see R 80 a [126]); B. Almindingen (R 06 dd [376]).

472. **Dermatea quercina** (Fuckel) Rehm III [253] & [1257], Dermatella q. Sacc., Syll. VIII [490].
On dead stems and branches of *Quercus robur*. F. Vejstrup (Nov. 61); S. Nørreskov near Furesø!.

473. **Dermatea acericola** (Peck) Rehm III [1245], Syn: Derm. alni (Fuckel), var. aceris Rehm III [252], Dermatella quercina var. aceris Sacc., Syll. VIII [490].
Acer pseudoplatanus. S. Ermelunden (O. R.).

474. **Dermatea frangulae** (Fries) Tul., Rehm III [260] & [1248] c. icon., Syn: Tympanis frang. Fries S. M. II [174], Dermatella frang. (Pers.) Karsten, Syll. VIII [489], Tubercularia nigra Schum. no 1377, Tympanis nig. Hornem., Fl. D. tab. 2273 fig. 3.
Frangula alnus. J. Viborg!, Silkeborg!; S. Klosterris Hegn.

475. **Dermatea padi** Fries S. V. [362], Syll. VIII [551], Rehm III [248] & [1256], Syn: Cenangium cerasi β padi Fries S. M. II [180], Hæggens Huulsvamp (H. 37 [843]).
Prunus padus. J. Constantinsborg near Aarhus ([27]/12 07 Ø. W.).

476. **Dermatea cerasi** (Fries) de Not, Syll. VIII [550], Rehm III [247] c. icon., Syn: Cenangium cerasi Fries S. M. II [179], Fl. D. tab. 2336 fig. 1, Tubercularia cerasi Schum. no 1374.
Rostrup is inclined to consider this species a true parasite (R 02 a [558]).
On branches of *Prunus avium*. J. Viborg!; F. Skaarup; S. Fredriksborg!, Forsthaven; B. Almindingen ([12]/9 90 and again Exc. [15]/5 11).

477. **Dermatea prunastri** Fries S. V. [362], Rehm III [261] & [1258], Syn: Cenangium prun. Fries S. M. II [180], Syll. VIII [556].

On the branches of *Prunus spinosa*. J. Krabbesholm Skov!; S. Charlottenlund.

Tympanis.

Several of the species have a conidial form of fructification similar to the conidial forms of the species of Dermatea and Cenangium; thus

Tympanis pinastri corresponds to Micropera pinastri (see Tul. Carp. III [151]).

— pithya — Sphaeronema pithya (see Fuckel).

— saligna — — spinella (see Fuckel).

— fraxini — — columnare (see Rehm III [266]).

— spermatiospora — Dothichiza populina.

— corylina — Catinula turgida.

Catinula is very closely connected with Dothichiza.

Another part of the species is related to Sphaeropsideae of the type of Dothiorella viz:

Tympanis conspersa — Dothiorella stromatica (see v. Høhnel 06 a [675]).

— alnea — — inversa (see Høhnel 06 a [676] & Jaap 08 [33]).

478. **Tympanis pithya** (Fries) Karsten, Rehm III [273], Syn: Cenangium pit. Fries S. M. II [184], Cenangella pit. Sacc., Syll. VIII [588].

Pinus silvestris. J. Stendalsgaard. *Pinus montana*. J. Tvorup Klit. *Pinus strobus*. J. Silkeborg (Lind 07 c), Palsgaard; S. Geelskov, Ruderhegn (O. R.).

479. **Tympanis pinastri** Tulasne, Rehm III [272], Syn: Cenangella pin. Sacc., Syll. VIII [588], Fyrrens Huulsvamp (H. 37).

Picea excelsa. S. Billesborg. *Pinus strobus*. S. Hornbæk Plantage, Ruderhegn.

480. **Tympanis alnea** Fries S. M. II [174], Syll. VIII [582], Rehm III [268], Ælle-Trommesvamp (H. 37 [843]).

On the branches of *Alnus incana*. J. Common near Viborg!, S. Aasevang (O. R. [20/5] 91), Hareskov!.

481. **Tympanis conspersa** Fries S. M. II [175], Syll. VIII [578], Rehm III [264] & [1258] c. icon., Bestrøet Trommesvamp (H. 37).

Sorbus aucuparia. J. Friisenborg; S. Svenstrup. *Pirus malus silvestris*. S. Ruderhegn!. *Pirus malus hortensis* ("Cellini"). J. Greisdalen!.

Bulgaria.

482. **Bulgaria inquinans** Fries S. M. II [167], Syll. VIII [636], R 69 [66], Syn: Peziza inquinans Pers., Schum. no 2041, Peziza polymorpha Oeder Fl. D. tab. 464, Bulgaria pol. Wettst., Rehm III [495] & [1263] c. icon., Limsvampen (O. F. Müller 1762 c. icon.), Smittende Posesvamp (H. 37 [842]), Afsmittende Topsvamp (Sev. P. 95 [110]).

From August—November it often occurs in great abundance on trunks and big branches of felled trees, most frequently on Quercus, but also on Fagus and Alnus; Rostrup states that it causes damage to the timber (R 02 a [558]). It was originally considered to have four spores in the asci (R 1880 a [178]) till Rostrup (89 i [236]) discovered that every ascus contains four large spores and four small ones. It was first found in Denmark in 1762 near Frederiksdal by O. F. Müller who considers it edible and also recommends it for the making of glue (62).

Hymenobolus.

483. **Hymenobolus agaves** Dur. & Mont. Syll. VIII [587].

On leaves of *Agave* in the hothouses in the botanical garden at Copenhagen ([13/5] 1897 L. K. R. see R. 99 a [263]).

Phacidiineae.

Stictidaceae.

Ocellaria.

484. **Ocellaria aurea** Tulasne, Syll. VIII [654], Rehm III [134] & [1251] c. icon., Lavagtig Punktsvamp (H. 37 [845]).

Its conidial stage is called Myxosporium scutellatum (Otth.) v. Høhn. 06 a [678].

In the bark of *Salix fragilis*. J. Nebsager (O. R.). *Salix pentandra* (hosp. nov.). J. Sødal near Viborg!.

Naevia.

485. **Naevia fuscella** (Karsten) Lind 10 a, Syn: Phacidium fusc. K., Syll. VIII [720].

On the leaves of *Carex leporina*. J. Utoft Plantage ([13/7] 04).

486. **Naevia pusilla** (Lib.) Rehm III [143], Syll. VIII [662], Syn: Trochila juncicola Rostrup 86 m, Syll. VIII [732] (see Lind 10 a).

On dead leaves of *Juncus balticus*. J. Gaardbogaard, Aalbæk, Klitmøller. *Juncus squarrosus*. J. Aalbæk!.

487. **Naevia minutula** (Sacc. & Malbr.) Rehm III [146] & [1252], Syll. VIII [659].

On the stems of *Solidago virgaurea*. J. Boller near Viborg ([11]/9 06!).

Briardia.

488. **Briardia purpurascens** Rehm III [152] c. icon., Syll. VIII [664], Syn: Hysteropeziza purp. Rehm 07 b [472].

On dead stems of *Medicago lupulina*. S. Faxe. *Lotus corniculatus* (hosp. nov.). J. Skive ([1]/4 07! Exs. Vgr. no 1332 & Rehm no 960 b). *Melilotus officinalis*. J. Fredericia!.

Propolis.

489. **Propolis rhodoleuca** Fries S. V. [372], Syll. VIII [651], Rehm III [150], Syn: Stictis rhod. Sommerfeld, Fries El. II [26], Rødhvid Punktsvamp (H. 37 [845]).

The size of the spores is rather varying; Rehm states them to be 10—15 μ × 5—6 μ, but Jaap has found them to be 20,5 μ × 8,5 μ, and I have seen them still larger, of about the same size as stated by Rehm for the following species, viz. 21—27 μ × 6—8 μ.

On the cones of *Pinus montana* (hosp. nov.). J. Viborg ([15]/3 04! Exs. Jaap no 132 & Vgr. 928); S. Lerchenborg (March 85. Chr. Petersen).

490. **Propolis versicolor** Fries S. V. [372], Syn: Stictis vers. Fries S. M. II [198], Propolis faginea (Schrad.) K., Syll. VIII [648], Rehm III [149] c. icon., Forskelligfarvet Punktsvamp (H. 37 [845]).

On the wood of many sorts of trees, Dec.—May, common.

Salix caprea. F. Skaarup. *Salix pentandra*. S. Bidstrup Hegn!. *Alnus glutinosa*. S. Ermelunden!. *Fagus*. Common. *Pirus malus*. J. Krabbesholm Skov!; L. Stensgaard. *Prunus spinosa*. J. Krabbesholm Skov!. *Lonicera xylosteum*. Møens Klint!

Phragmonaevia.

491. **Phragmonaevia hysterioides** (Desm.) Rehm III [162], Syll. VIII [675].

On dead leaves of *Carex acutiformis*. S. Stadsevang (May 11! Exs. Rehm no 1954).

Naemacyclus.

492. **Naemacyclus niveus** (Fries) Sacc., Syll. VIII [701], Rehm III [173] c. icon., Syn: Stictis nivea Pers., Fries S. M. II [196].

On leaves of *Pinus montana*. J. Thorsager ([15]/3 04!).

Stictis. .

493. **Stictis carestiae** (de Not.) Rehm III [175], Syll. VIII [686].
On barked branches of *Picea excelsa*. S. Jyderup.

494. **Stictis radiata** Fries S. M. II [194], Syll. VIII [682], Rehm III [176] c. icon.
On barked branches. J. Krabbesholm Skov!; S. Boserup (Exc. 2/10 87); L. (on *Ligustrum*).

495. **Stictis arctostaphyli** F. & W. 07 [253] c. icon., Syn: Coccomyces quadratus Karst. var. arct. Rehm nom. nud. Annal. myc. V [231], Naemacyclus Penegalensis Rehm, Jaap 08 [34], Naemac. arctost. (F. & W.) Rehm 11.
Quite common on dead leaves of *Arctostaphylos uva ursi*, May—August. J. Mølhede (M. L. M.), Sd. Resen!, Borris (F. & W.), Hjerting (E. W. July 86).

Schizoxylon.

496. **Schizoxylon sepincolum** Pers., Syll. VIII [701], Rehm III [184].
On wood, F. Skaarup.

Tryblidiaceae.

Tryblidium.

497. **Tryblidium calyciiforme** Fries El. II [131], Rehm III [196] c. icon., Syn: Blitrydium cal. (Rebent.) de Not., Syll. VIII [802].
On bark of *Quercus robur*. F. Skaarup (28/12 73).

Heterosphaeria.

498. **Heterosphaeria patella** (Fries), Syll. VIII [775], Rehm III [201] & [1254] c. icon., Syn: Phacidium patella Fries El. II [133], Fadformig Huulsvamp (H. 37 [844]).
Common on dead stems of Umbelliferae etc. Its conidial stage is called Heteropatella patella (Bon.).
Carum carvi, Daucus carota, Angelica silvestris, Pimpinella saxifraga common. *Pimpinella nigra*. J. Viborg!. *Pastinaca sativa*. S. Kobenhavn (O. R.). *Conium maculatum* (hosp. nov.). J. Viborg!.

499. **Heterosphaeria linariae** (Rabenh.) Rehm III [203] & [1254], Syll. VIII [776], Syn: Het. lacera Fuck.
Rare, on dead stems and leaves of Linaria. Its conidial stage is called Heteropatella lacera Fuckel.
Linaria vulgaris. S. Lystrup (5/6 09!).

Scleroderris.

500. **Scleroderris difformis** Rostrup. See figg. 20 & 21 tab. 2.

Apothecia difformia, subglobosa vel elongata et flexuoso-repantia, immarginata, nigra, nitida, deinde concava, gregaria vel caespitosa; asci elongato-clavati, 100—140 μ l., 10—15 μ cr. sporae elongatae, distichae, 44—64 μ × 4—5 μ. Paraphyses numerosae, filiformes, apice saepe leniter incrassatae, subinde ramosae (E. R. in herbario).

On the bark on the lower part of the trunk of *Pinus strobus*. S. Toustrup Sø in Gribskov ($^{30}/_{8}$ 91).

501. **Scleroderris fuliginosa** (Fries) Karst., Syll. VIII [595], Rehm III [210] & [1254] c. icon., R 02 a [534], Syn: Cenangium ful. Fries El. II [23].

It is a true parasite which, within a short time, kills the affected branches (R 96 q [123]).

Its conidial stage is called Mastomyces proboscidea (Fries) Sacc.

Salix alba. S. Damhussøen. *Salix alba* × *fragilis*. S. Gl. Køgegaard. *Salix daphnoides*. J. Kolbensig Planteskole. *Salix caprea* × *viminalis*. J. Hollund Søgaard.

502. **Scleroderris ribis** (Fries)!, Syn: Cenangium rib. Fries S. M. II [179], Sclerod. ribesia (Pers.) K., Syll. VIII [594], Rehm III [209], R 02 a [535].

Its conidial stage is called Mastomyces uberiformis (Fries) Karsten.

Ribes nigrum. S. Dyrehaven, Ermelunden (O. R.); L. Stensgaard. *Ribes rubrum*. J. Rugtvedgaard (O. R.), Krabbesholm Skov!.

503. **Scleroderris aggregata** (Lasch) Rehm III [212] & [1254], Syn: Ephelina rhinanthi Sacc., Syll. VIII [585], Sclerotium rhin. Magnus, Syll. XIV [1141], Skjaller-Støvkugle H. 37 [870].

Rostrup mentions it (84 j [105]), describing its conidial stage without denominating it.

Alectorolophus major & minor. S. Snejbjerg, Utoft; Glænø; F. Brændeskov, Holmdrup; S. Kallundborg (Ottesen), Lersøen. *Alectorolophus apterus*. J. Skiveren (L. K. R.). *Euphrasia officinalis*. S. Bromme. *Euphrasia gracilis*. B. Rø (R 06 dd [376]).

Phacidiaceae.

Pseudophacidium.

504. **Pseudophacidium degenerans** Karst., Syll. VIII [778], Rehm III [94] & [1249], Syn: Cenangium vaccinii Fuck., Syll. VIII [558], Phacidium deg. Karsten.

On dead twigs of *Vaccinium uliginosum*. S. Gammelmose (R 06 cc [357]); L. Stokkemarke Tørvelyng (R 85 c).

Clithris.

505. **Clithris quercina** (Fries) Karsten, Rehm III [102] & [1250] c. icon., Syn: Cenangium querc. Fries S. M. II [189], Fl. D. tab. 2276 fig. 1, Hysterium querc. Persoon, Schum. no 1250, Colpoma querc. Wallr. Syll. II [803], Egens Sprækkesvamp (R 69 [67]).

It is common on young branches of Quercus robur, it never attacks the completely sound branches but only the weak or wounded ones (R 80 a [187], 02 a [533]). It is limited to Quercus, it is a mistake when Schum. states that he has found it on Corylus; this is evident from the specimens of his herbarium.

Phacidium.

The conidial fructification corresponding to the species of Phacidium is to be sought in the formgenus Dothiorella, at any rate it is commonly supposed that

Phacidium lacerum corresponds to Dothiorella pinastri
Phacidium vaccinii — Dothiorella latitans (see Rehm III [69], Vleugel 11 [330]).

506. **Phacidium abietinum** Fries S. M. II [576], Syll. VIII [714], Rehm III [67] & [1248] c. icon.

On the leaves of *Abies alba*. J. Stendalsgaard. *Abies balsamifera*. F. Tange Skov.

507. **Phacidium lacerum** Fries S. M. II [575], Syll. VIII [713], Rehm III [66].

On dead leaves of *Pinus montana*. J. Nr. Mølle Plantage near Viborg (! April 04).

508. **Phacidium repandum** Fries S. M. II [578], Rehm III [70] & [1248], Syn: Pseudopeziza rep. Karst., Syll. VIII [727], Phacidium verrucosum (Wallr.) Sacc., Syll. VIII [717].

On fading leaves and stems, Placosphaeria punctiformis (Fuck.) Sacc. is regarded as its conidial stage.

Sherardia arvensis. F. Vængemose, Magaard, Vejstrupgaard. *Galium aparine*. F. Skaarup ([14]/12 73). *Galium palustre*. S. Basnæs (P. N.). *Galium mollugo*. F. Skaarup; Møen Lilleklint. *Galium boreale*. J. Skive!, Varde (Christensen Hygum); S. Flaskekroen, Snedinge (P. N.).

Trochila.

Some species of Trochila are supposed to correspond to Gloeosporium f. inst.

Trochila craterium corresp. Gloeosporium paradoxum
Trochila laurocerasi — — phacidiellum (see Grove 12 [53])

in the same manner, the conidial fructification of the species of the connected genus Stegia is to be sought among Melanconiaceae f. inst.

Stegia subvelata — Pseudostegia nubilosa (see Bubak 06 b).

509. **Trochila psammicola** Rostrup 99 a [274], Syll. XVI [786].

Cupulis hypophyllis, sparsis, erumpentibus, atris; ascis clavatis, 34—36 × 6 μ; sporidiis fusoideo-elongatis, 7—9 × 2—3 μ; paraphysibus ascorum longitudine, filiformibus.

In foliis *Calamagrostidis arenariae*. S. Tisvilde (July 1898).

510. **Trochila ilicis** (Fries) Crouan, Rehm III [129] c. icon., Syn: Eustegia il. Chev., Fries El. II [112], Stegia il. Fries Obs. II [352], Syll. VIII [733], R 02 a [532].

On dead leaves of *Ilex aquifolium*. Læsø!; J. Horsens!; Æbelø (June 1814 N. Hofman Bang and again Exc. 5/8 85); F. Skaarup; L. Stensgaard, Juellinge (O. R); B. Rønne (Exc. 17/5 11).

511. **Trochila craterium** Fries S. V. [367], Syll. VIII [728], Rehm III [128].

On dead leaves of *Hedera helix*. J. Constantinsborg near Aarhus (Ø. W. see F. & W. 09 [315]), Horsens (16/4 02!).

Cryptomyces.

512. **Cryptomyces pteridis** (Fries) Rehm III [107] & [1250] c. icon., Syn: Sphaeria pt. Rebent., Fries S. M. II [540], Rhytisma pt. Rostrup 04 a [200], Ørnebregnens Rynkeplet (R 04 a).

The mycelium penetrates the whole plant, the fronds get more robust with broader, curled laps of a different, pale, green colour (R 85 a). It produces conidia called Gloeosporium pteridis in summer, and ripe asci in May.

Pteridium aquilinum. Læsø (Jac. Hartz); J. Frederikshavnsegnen!, Buderupholm Skov, Mariager!, Sødal Skov!, Hald Egeskov (Gad), Silkeborg Nørreskov (12/8 74 and again 11/7 06); S. Nørager (Joh. Lge); B. Randkløve and Almindingen (R 06 dd [377]).

513. **Cryptomyces maximus** (Fries) Rehm III [107] & [1250], Syll. VIII [707], R 02 a [532], Syn: Rhytisma max. Fries S. M. II [566].

It is a destructive parasite on the branches of Salix. Its conidial stage is called Pilidium fuliginosum (Fries) Awd. (see R 99 a [264]).

Salix fragilis. S. Tudsenæs (Exc. 2/6 12). *Salix alba*. S. Damhussøen; L. Stensgaard. *Salix daphnoides*. J. Kolbensigs Planteskole. *Salix caprea* × *viminalis*. J. Baggesvogn, Viborg!, Aal (J. Bang & E. W.); S. Jægerkroen (Exc. 2/10 10). *Salix repens*. J. Bagterp.

Schizothyrium.

514. **Schizothyrium ptarmicae** Desm., Syll. II [725], Rehm III [75].

Its conidial stage is called Leptothyrium ptarmicae Sacc.

Achillea ptarmica. F. Skaarup (Febr. 62); S. Gammelmose (R 06 cc [357]), Eskildstrup; L. Stensgaard.

Coccomyces.

515. **Coccomyces coronatus** (Fries) de Not., Syll. VIII [744], Rehm III [76] & [1248] c. icon., Syn: Ascobolus cor. Schum. no 2134 (see R 85 g [153]), Phacidium cor. Fries S. M. II [577], Fl. D. tab. 2340 fig. 1, Sclerotium quercinum Schum. Fl. D. tab. 1380 fig. 2, Kronet Lindseplet (H. 37 [874]).

Schroeter considers Leptothyrium castaneae & quercinum to be its conidial fructification, but Karsten considers it to be Fusicoccum coronatum, and I (Lind 07 c [276]) have described a Ceutospora atra which I consider as related to this species.

Quite common on fallen leaves of *Betula, Fagus, Quercus, Castanea* etc., Sept.—Dec.

516. **Coccomyces rubi** (Fries) Karst., Syll. VIII [751], Rehm III [81], Syn: Phacidium rubi Fries S. M. II [578].

On dead leaves of *Rubus idaeus*. J. Skovsgaard near Viborg ([22/4] 04!).

Rhytisma.

The species of this genus develop conidial fructification, called Melasmia, in summer; the ripe asci and spores do not occur until the following spring in May.

Rhytisma salicinum	corresponds to	Melasmia salicina.
Rhytisma acerinum	—	Melasmia acerina.
Rhytisma punctatum	—	Melasmia punctata.
Rhytisma empetri	—	Melasmia empetri.

517. **Rhytisma salicinum** Fries S. M. II [568], Syll. VIII [753], Rehm III [84] c. icon., R 02 a [532], Syn: Xyloma sal. Pers., Schum. no 1351, Pilens Rynkeplet (H. 37 [874], R 69 [68], 80 a [195]).

It is common on living leaves of Salix July—Octob., developing the ascomata on the fallen leaves from April—May.

Noticed on *Salix cinerea, caprea, caprea* × *viminalis, aurita, nigricans, hastata* and *repens*.

Nic. Hartz has found it on leaves of Salix aurita at "Stokkemarke Torvelung" 120 cm. deep in the turf and in interglacial deposits near Eistrup (Hartz 09 [228]).

518. **Rhytisma acerinum** Fries S. M. II [569], Syll. VIII [753], Rehm III [82] & [1249], R 80 a [195] & 02 a [530] c. icon. Syn: Xyloma acerinum Pers., Schum. no 1352, Lønnens Rynkeplet (H 37 [874], R 69 [68], 89 a [19]).

I have found ripe asci and spores in May (see also Klebahn 89). It seems to be chiefly limited to Acer pseudoplatanus on which host

it often occurs in great abundance, especially on young plants planted in a place where the fallen leaves are not removed in winter. On the other hand it is rare on Acer platanoides and campestre even if the trees are close together, and the attack is always weak and scanty (see R 96 o, 97 o).

Acer pseudoplatanus common. *Acer platanoides.* S. Rungsted, Geelskov. *Acer saccharinum.* F. Tange Skov. *Acer campestre.* L. Stensgaard; Møen Ulfshale.

519. **Rhytisma punctatum** Fries S. M. II [569], Syll. VIII [753], Rehm III [83], R 02 a [531].

Acer pseudoplatanus. F. Brændeskov. *Acer campestre.* F. Assens!.

520. **Rhytisma empetri** Fries El. II [127], Syll. VIII [751], Rehm III [85], Krækling-Rynkeplet (H. 37 [873]).

Empetrum nigrum. J. Knud Mose ([10]/8 74); S. Hornbæk Plantage.

521. **Rhytisma andromedae** Fries S. M. II [567], Syll. VIII [754], Rehm III [85], Andromede-Rynkeplet (H. 37 [873]).

Andromeda poliifolia quite common, noticed from following localities. J. Jerup (M. L. M.), St. Vildmose, Hobro (July 69), Viemose!, Viborg (Gad), Borris Hede (F. & W. 08); F. Hundtofte; S. Gammelmose, Holmegaards Mose; Falst. Horreby Lyng.

522. **Rhytisma urticae** Fries S. M. II [570], Syll. VIII [755], Rehm III [86].

This species differs in several respects from Rhytisma and had, no doubt, better be transferred to another genus.

Placosphaeria urticae is regarded as its conidial form.

On dead stems of *Urtica dioeca.* J. Horsens!; F. Skaarup ([6]/3 74), Klingstrup; S. Dyrehaven (O. R.), Ermelunden etc.

Hysteriineae.

Hypodermataceae.

Concerning the limitation of the genera of Hypodermataceae I agree with Lagerberg (10), who classifies the species furnished with filiform spores of about the same length as asci and quite short perithecia among Lophodermium. The Hypodermella have line-shaped perithecia of various lengths, their asci are clavate containing either four or eight tear-shaped spores which are surrounded by a thick layer of mucilage. Hypoderma have stalky asci and staff-shaped or spindle-shaped spores which will at last become biloculated.

Most species of Hysteriaceae produce conidial fructifications of the type of Leptostromaceae. Thus the following relations may be mentioned:

Lophodermium	pinastri	corresponds to	Leptostroma pinastri (see Tub. 02 [13]).
—	caricinum	—	— caricinum (see Fuckel).
—	arundinaceum	—	— hysterioides f. graminicola.
—	hysterioides	—	Leptothyrium berberidis.
Hypodermella	laricis	—	Leptostroma laricinum (see Tub. 02 [19]).
Hypoderma	scirpinum	—	Leptostroma scirpinum.
—	commune	—	Leptothyrium vulgare.
—	rubi	—	Leptostroma virgultorum.
—	virgultorum	—	Leptostroma herbarum (see Bref. IX [271]).
—	virg. f. vincetoxici	—	Leptostromella hysterioides.
Lophium	eriophori	—	Leptostroma Henningsii.

It is highly probable, also that Leptothyrium pini, pinastri, pini austriaca and exiguum are the conidial stages of species of Hysteriineae.

There are also accounts of the relations of a number of species to some quite different forms of fungi imperfecti, viz:

Lophium mytilinum	corresp.	Phragmotrichum Chailletii (see Tul. Carp. II [259]).
Hypodermella nervisequia	—	Septoria pini (see Lindau 08 [271]).
Hypodermella sulcigena	—	Hendersonia acicola (Tub. & Lagerberg 10 [140]).
Lophodermium melaleucum	—	Phoma leptidea (see Vleugel 11 [348]).

Hypodermella.

523. **Hypodermella nervisequia** (Fries) Lagerberg 10 [148], Syn: Hysterium nerv. Fries S. M. II [587], Lophodermium nerv. Rehm III [44], Hypoderma nerv. de Candolle, Syll. II [785], R 89 a [19], 90 a [206], 02 a [516] c. icon., Ædelgranens Sprækkesvamp (R 79 b [82]).

In the leaves of *Abies alba* common, f. inst.: F. Skaarup; S. Teglstrup Hegn, Geelskov; B. Almindingen ($^3/_6$ 84, again Neger 06).

524. **Hypodermella macrospora** (Hartig) Lagerberg, Syn: Hypoderma mac. Hart., Syll. II [786], R 89 a [18], 02 a [515] c. icon., Lophodermium

mac. Rehm III [45], Rødgranens Sprækkesvamp (R 79 b [76] c. icon.).

Very common, especially on the islands (see R 85 o [8]); May—October.

Picea excelsa noticed from J., S., L., Møen, B. (Neger 06). *Picea pungens.* S. Forsthaven (N. Esbjerg). *Picea sitchensis.* S. Teglstruphegn.

525. **Hypodermella sulcigena** (Rostrup) Tubeuf 02 [15], Syll. XI [385], Syn: Hypoderma sulc. Rostrup 83 d [284] c. icon., 89 a [18], 90 a [205], 93 a [112], 02 a [517] c. icon., Hypoderma pinicola Brunchh., Syll. XI [389].

Its propagation depends much upon the weather; in wet and cold summers it will cause great damage to the trees. It has been recorded from all parts of the country as being found on living leaves of Pinus silvestris and montana, was first found in Uglerup forest in Odsherred (June 22. 1882); Rostrup has described its asci as being fourspored, but in his diary he has quite correctly delineated both four-spored and eight-spored asci.

Fig. 10. Hypodermella nervisequia, affected twigs of Abies alba, a single leaf seen from the under surface, ascus, leaf seen from the upper surface. From R 02 a.

Hypoderma.

526. **Hypoderma brachysporum** (Rostrup) Tubeuf, Syll. IX [1125], Rehm III [1211], Syn: Lophodermium brach. R 83 d [281] c. icon., 90 a [204], 02 a [527] c. icon., Hypoderma strobicola Tub. 88, Hypod. Desmazierii Ellis, Lit: Tubeuf 02 [15], Fron 11.

On the leaves of *Pinus strobus,* common, noticed from J. Dronninglund, Storskov, Viborg!, Friisenborg, Palsgaard, Dallerup near Horsens!; F. Tange; S. Hornbæk, Teglstrup Hegn, Frederiksborg, Ruderhegn (O. R.), Geelskov, Jonstrup Vang (H. M.), Vemmetofte, Hylleholt; B. Rø (R 06 dd [377]).

527. **Hypoderma scirpinum** (Fries) de C., Syll. II [788], Rehm III [34] & [1247], Syn: Hysterium scirp. Fries S. M. II [590], Kogleax-Sprækkesvamp (R 69 [68]).

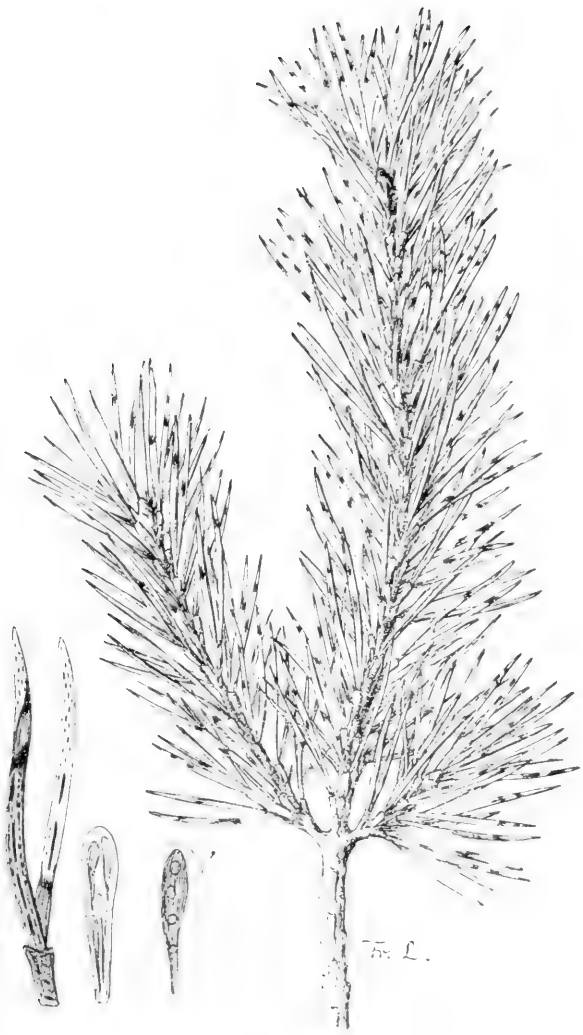


Fig. 11. Hypodermella sulcigena, affected shoot of Pinus silvestris, 2 single leaves, ascus, $\frac{300}{1}$ and a single ascospore $\frac{600}{1}$. From R 02 a.

Scirpus lacustris. S. Sjælsø, Hvalsølillesø, Tjustrupsø; L. Vesterborg Sø.

528. **Hypoderma commune** (Fries) Duby, Syll. II [788], Rehm III [32], Syn: Hysterium com. Fries S. M. II [589], Hyst. artemisiae Schum. no1259, Fl. D. tab. 1820 fig. 2, Almindelig Sprækkesvamp (H 37 [875], R 69 [67]).

On stems of *Pisum sativum.* F. Klingstrup. *Parietaria erecta.* F. Skaarup. *Lycopus europaeus.* F. Skaarup. *Valeriana officinalis.* Thurø.

529. **Hypoderma virgultorum** de Candolle, Syll. II [786], Rehm III [32] & [1247] c. icon.

Salix caprea. S. Ruderhegn. *Acer pseudoplatanus.* S. Ermelunden. *Lonicera periclymenum.* B. Almindingen.

530. **Hypoderma rubi** (Fries), Syn: Hysterium rubi, Pers., Fries S. M. II [587], Hypoderma virgultorum de C. f. rubi Rehm III [33], Klynger-Sprækkesvamp (R 69 [67]).

On branches of *Rubus.* F. Tange, Vejstrup ([23]/12 73), Klingstrup; S. Geelskov (V. Sarauw).

Lophodermium.

531. **Lophodermium abietis** Rostrup 89 a [17] c. icon. & 90 a [201] c. icon., Granens Sprækkesvamp (R 02 a [525] c. icon.).

It clearly differs from Lophod. pinastri by its shorter asci and sporidia. The description does not occur with Saccardo nor with Rehm but with Tubeuf (02 [13]). Rostrup mentions it early (83 d [277], 85 a [15] & 87 j; see also Dalgas 88 [155]), but he did not describe it till 1889. Specimens of this fungus from Denmark are already contained in Schumacher's herbarium from the beginning of the 19th. century. Concerning its distribution here and abroad see R 96 q; it chiefly affects trees growing in meagre soil or exposed to flooding (see R 88 k [6], 89 k, Helms 93). Its asci and spores are ripe in April; it will just as readily attack the leaves of seedlings as those of large trees.

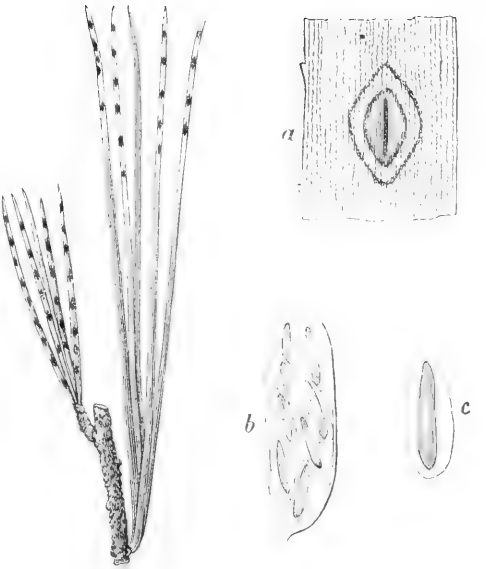


Fig. 12. Hypoderma brachysporum on leaves of Pinus strobus, a, perithecium enlarged, b, ascus $\frac{300}{1}$, c, ascospore $\frac{600}{1}$. From R 02 a.

Abies alba common. *Picea excelsa* very common f. inst. Tisvilde (H. M. 90 [175]). *Picea canadensis* common. *Picea sitchensis*. S. Søholt (Jespersen), Asserbo. *Picea morinda*. S. Holbæk (Wichfeld). *Pseudotsuga taxifolia*. F. Glorup. *Taxus baccata*. J. Høllund Søgaard (R 96 o [122]).

532. **Lophodermium pinastri** (Fries) Chev., Syll. II [794], Rehm III [43] c. icon., Syn: Hysterium pinastri Schrader, Fries S. M. II [587], Hyst. pini Schum. no 1258, Fl. D. tab. 2331 fig. 2, Naale-Sprækkesvamp (R 69 [67]), Fyrrens Sprækkesvamp (R 79 b [84]). Lit: R 79 b c. icon., 81 b, 83 d, 85 o [4], 86 l [241], 89 a [16] c. icon, 90 a [200], 91 e, 93 a [110], 96 q [119], 02 a [519], Dalgas 82 a & b, Tubeuf 02 c. icon., Bruun 11 [281].

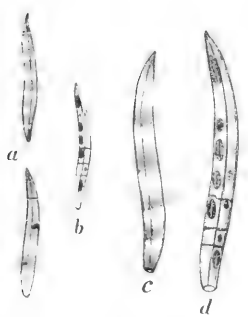


Fig. 13. Lophodermium abietis on leaves of Picea excelsa (c & d enlarged. From R 02 a.

Rostrup took a great interest in this fungus and its significance to the cultivation of Pinus in Denmark. No doubt he was the first to realize that the disease formerly called "Schütte" was caused by attacks of this fungus. Rostrup proved that Pinus austriaca and several other species were particularly exposed to its attack and consequently ought not to be cultivated.

Fig. 14.
a, Lophodermium pinastri, b, Lophodermium abietis, both enlarged $\frac{600}{1}$.
From R 02 a.

He also proved that seedlings from German seeds were more severely attacked than seedlings from Danish or northern seeds. Rostrup states this fungus to be most destructive to Pinus; his examinations have been of great significance to the right understanding of the falling of the leaves of firs both in Denmark and abroad. The conidial fructification called Depazea linearis R 83 d c. fig. is found on living leaves in summer, the ascigerous fructification is only found on the dead leaves on the ground.

Nic. Hartz has found it on the leaves of Pinus silvestris deep down in the peat-bogs.

On the leaves of *Pinus silvestris, montana, austriaca, maritima, rigida, contorta, corsicana, monspeliensis, cembra & strobus* (Exs. Vgr. no 923).

533. **Lophodermium gilvum** Rostrup 83 d [283], 02 a [529].

Peritheciis sparsis, epiphyllis, innato-immersis oblongatis vel linearibus, epidermide tectis, gilvidis; ascis numerosis, sessilibus, cylindraceo-clavatis 75—80 μ × 10—12 μ; paraphysibus filiformibus, numerosis; apice flexuosis, 80—85 μ long.; sporidiis octonis, filiformibus, hyalinis, multiguttulatis, 70 μ × 2 μ.

Pinus austriaca. F. Vejstrup Aaskov ($^{24}/_{12}$ 1882).

534. **Lophodermium juniperinum** (Fries) de Not., Syll. II [794], Rehm III [44], R 83 d [283], 02 a [529], Syn: Hysterium jun. Fries S. M. II [588].

Very common on the leaves of *Juniperus communis. Juniperus virginiana.* F. Hofmansgave (N. E. Hofman Bang). *Juniperus sabina.* F. Middelfart!. *Juniperus squamata.* S. Charlottenlund.

535. **Lophodermium herbarum** (Fries) Fuckel, Syll. II [798], Rehm III [41], Syn: Hysterium herb. Fries S. M. II [593].

On dead leaves of *Convallaria majalis.* J. Skovsgaard ($^{21}/_{4}$ 03! Exs. Vgr. no 922).

536. **Lophodermium arundinaceum** (Fries) Chev., Syll. II [795], Rehm III [45] c. icon., R 02 a [529], Syn: Hysterium arund. Schrader, Fries S. M. II [590], Rørets Sprækkesvamp (H. 37 [875]).

Common on dead leaves and sheaths of many different species of gramineae. The species is probably to be divided into several biologically different subspecies.

Noticed on *Dactylis glomerata, Bromus erectus, Festuca rubra.* S. Gilleleje (E. W.). *Festuca duriuscula, Poa compressa* & *pratensis* (especially on the glumes). *Arundo phragmites* (R 06 cc [357]), *Sieglingia decumbens.* Falst. Bøtø; B. Bobbeaa!. *Calamagrostis arenaria, arenaria* × *epigejos.* Falst. Bøtø (P. N.), *epigejos, lanceolata* (hosp. nov.), *arundinaceum, Phleum pratense, Hordeum arenarium, Triticum sativum* & *caninum.*

537. **Lophodermium seriatum** (Lib.) de Not., Syll. II [796].
Festuca silvatica. J. Vejle Nørreskov. S. Hæsede ([28]/6 82).

538. **Lophodermium typhinum** (Fries) Lamb., Syll. II [798], Rehm III [47], Feltgen I [137], Syn: Hysterium typh. Fries S. M. II [590].
Typha latifolia. S. Ørholm (June 91 O. R.), Lyngby!.

539. **Lophodermium caricinum** (Rob.) Duby, Syll. II [797], Syn: Loph. arundinaceum var. caric., Rehm III [47].
Carex leporina. Fænø. *Carex rostrata.* J. Raabjerg (O. R.).

540. **Lophodermium petiolicolum** Fuckel, Syll. II [793], Rehm III [41].
Quercus robur. J. Hald Egeskov!, Thorsager!; S. Ermelunden. *Quercus sessiliflora.* B. Almindingen (R 06 dd).

541. **Lophodermium Neesii** Duby, Syll. II [297], Rehm III [37].
Ilex aquifolium. Found in interglacial deposits. J. Ejstrup (Hartz 09 [228]).

542. **Lophodermium oxycocci** (Fries) Karsten, Syll. II [792], Rehm III [39] & [1247], Syn: Hysterium oxycoccos Fries S. M. II [588].
Oxycoccus palustris. S. Gribskov (June 03 O. R.).

543. **Lophodermium melaleucum** (Fries) de Not., Syll. II [791], Rehm III [38] c. icon., Syn: Hysterium mel. Fries S. M. II [589].
On dead leaves of *Vaccinium vitis idaea,* common, noticed from: J. Mosskov, Hald!, Silkeborg Nørreskov, Himmelbjerget (O. R.), Borris Hede (F. & W. 08); F. Hals ([17]/7 79); S. Tisvilde; B. Almindingen (! Exs. Rehm).

544. **Lophodermium maculare** (Fries) de Not., Syll. II [791], Rehm III [39], Syn: Hysterium mac. Fries S. M. II [592].
On leaves of *Vaccinium uliginosum.* J. Gaardbogaard (Aug. 90 O. R.).

545. **Lophodermium cladophilum** (Lév.) Rehm III [42], Syn: Sporomega clad. Duby, Syll. II [801].
On the stems and branches of *Vaccinium myrtillus.* J. Rindsholm ([1]/4 03! Exs. Vgr.), Vinding Skov.

Dichaenaceae.

Dichaena.

546. **Dichaena faginea** Fries El. II [143], Syll. II [771], Rehm III [51], R 02 a [529].

Its conidial fructification, called Psilospora faginea is found on branches of *Fagus silvatica.*

547. **Dichaena quercina** Fries El. II [143], Syll. II [771], Rehm III [50], R 02 a [529].

Its conidial fructification, called Psilospora quercina, is common on branches of *Quercus robur.*

Ostropaceae.

Aulographum.

548. **Aulographum filicinum** Libert, Syll. II [731], Rehm III [9] & [1246]. *Aspidium filix mas.* F. Glorup ([25]/5 90 see R 92 g [75]).

Hysteriaceae.

Glonium.

549. **Gloniúm lineare** (Fries) de Not., Syll. II [732], Rehm III [10] c. icon., Syn: Hyst. lin. Fries S. M. II [583], Glonium confluens (Wallr.) Duby, Syll. II [733].

On bare wood of living *Fagus silvatica.* J. Barritskov (O. R.); F. Klingstrup; S. Dronninggaard, Dyrehaven. *Quercus robur.* F. Klingstrup (May 63). *Corylus avellana.* S. Soro Sønderskov (V. Sarauw).

Hysterium.

550. **Hysterium angustatum** Fries S. M. II [580], Syll. II [744], Rehm III [14] & [1246].

Fagus silvatica. S. Prinsessestien!, Bognæs ([11]/4 87). *Prunus spinosa.* J. Krabbesholm Skov ([17]/4 03! Exs. Vgr. no 918); B. Almindingen (Exc. [15]/5 11).

551. **Hysterium pulicare** Fries S. M. II [579], Syll. II [743], Rehm III [3] & [1246] c. icon., Fl. D. tab. 3230 fig. 1, Syn: Hyst. pedicellatum Schum. no 1262, Fl. D. tab. 2331 fig. 1, Hyst. pulicare var. pedicell. Fries S. M.

II [579], Rehm III [14] c. icon., Opegrapha lichenoides Vahl, Fl. D. tab. 1242, Loppeformig Sprækkesvamp (H. 37 [874]), Loppe-Sprækkesvamp (R 69 [67]).

According to the original specimen in Schumacher's herbarium his Hysterium pedicellatum is quite identical with Hyst. pulicare.

Very common on old thick bark of various deciduous trees.

Noticed on *Quercus robur*. J. Nebsager (O. R.); F. Klingstrup (March 66), Vejstrup Aaskov!; S. Charlottenlund. *Betula alba*. S. Teglstrup Hegn (V. Sarauw); L. Stensgaard. *Fraxinus excelsior*. S. Charlottenlund. *Alnus glutinosa*. F. Skaarup.

Hysterographium.

552. **Hysterographium fraxini** (Fries) de Not., Syll. II [776], Rehm III [19] & [1246] c. icon., R 02 a [513] c. icon., Syn: Hysterium frax. Pers., Fries S. M. II [585], R 69 [67], Askens Sprækkesvamp.

Rostrup has the honour of having discovered that this fungus is a true parasite; it attacks the younger branches of Fraxinus and kills them; it first produces the conidial fructification of the formgenus of Myxosporium, later on developing its ascigerous fructifications on the fallen twigs (see R 83 a [7], 83 d [286], 96 q [120]).

Fraxinus excelsior common. *Fraxinus americana*. J. Buderupholm (see P. E. Müller 88 [155]); Falst. Hanenov.

553. **Hysterographium curvatum** (Fries) v. Höhnel 06 b [1258], Syn: Hysterium curv. Fries El. II [138], Gloniopsis curv. Sacc., Syll. II [775] & XVII [909], Gloniopsis ilicis R 97 m [46], Syll. XIV [717].

On dead, decorticated branches of *Ilex aquifolium*. (Æbelø [4/8] 95).

554. **Hysterographium elongatum** (Fries) Cda., Syll. II [777], Rehm III [19], Syn: Hysterium elong., Wahlenberg, Fries S. M. II [581], Lang Sprækkesvamp (H. 37 [874]).

On a fence-post. F. Glorup.

Mytilidion.

555. **Mytilidion Karstenii** Sacc., Syll. II [763], Rehm III [24] c. icon.

On old bark of the root of *Picea excelsa*, S. Ruderhegn ([26/5] 09!).

Lophium.

556. **Lophium mytilinum** Fries S. M. II [533], Syll. II [799], Rehm III [26] c. icon., Syn: Hysterium myt. Pers., Schum. no 1264.

Picea excelsa. F. Klingstrup, Skaarup; S. Ruderhegn (O. R.), Dyrehaven. *Pinus montana*. J. Gjesten. *Pinus strobus*. S. Farum, Gammelmose.

557. **Lophium dolabriforme** Wallr., Syll. II [800], Rehm III [27] c. icon.

On barked branches of *Pinus malus silvestris*. J. Krabbesholm Skov ([20/3]

04! Exs. Vgr. no 921); F. Brændeskov (4/4 82); S. Bastrup (Exc. 6/10 07), Ermelunden (O. R.), Svenstrup Skov (R 97 n).

Acrospermaceae.

Acrospermum.

558. **Acrospermum compressum** Fries S. M. II [245], Syll. II [807], Rehm III [53] c. icon.

On dead stems of *Urtica dioeca*. J. Horsens!, F. Skaarup (19/4 76); S. Ermelunden (O. R.), Lyngby Mose (O. R.). *Lappa sp.* S. Sorø (V. Sarauw).

559. **Acrospermum graminum** Libert, Syll. II [807], Rehm III [55].

On dead stalks of grass; *Dactylis glomerata*. J. Skive!. *Hierochloa borealis*. 25/5 1856 (in herbario). *Aira caespitosa*. F. Skaarup. *Calamagrostis lanceolata*. F. Tved. *Triticum repens*. J. Bustrup!; S. Lyngby Mose (O. R.).

Tuberineae.

Hydnotria.

560. **Hydnotria Tulasnei** Berk. & Br., Syll. VIII [879], Fisch. V [26], Th. Fries 09 [245].

Subterranean, in fagineta, June—October.

S. Magistratskoven near Hvalsø (Exc. 12/10 02), Herlufsholm (Kring).

Pachyphloeus.

561. **Pachyphloeus melanoxanthus** (Berk.) Tul., Syll. VIII [881], Fisch. V [31].

S. In faginetum, Folehaveskoven (17/9 05 Riise see L. K. R. 06 & Th. Fries 09 [239]).

Tuber.

562. **Tuber aestivum Vittadini,** Syll. VIII [891], Fisch. V [37] c. icon., Th. Fries 09 [233], not Tuber albidum Fries S. M. II [291] (see Syll. VIII & Th. Fries 09), Trøffel.

Only a single specimen of this species has been found in a dike near Herlufsholm (June 1903 K. King, see L. K. R. 06); this is the only time it has been found in Scandinavia.

563. **Tuber rufum** Fries S. M. II [292], Syll. VIII [897], Fish. V [57] c. icon., Th. Fries 09 [233].

L. Stensgaard Skov (Aug. 73 see R 84 j [103]).

564. **Tuber maculatum Vittadini** Syll. VIII [890], Fisch. V [47], Syn: Tub. suecicum Wittrock, Syll. VIII [899], Tuber rapaeodorum R 84 j [103] etc. & Lund 74, not Tulasne (see Th. Fries 09 [234]), Skarptlugtende Trøffel (R 04 a [162]).

J. Skagen (Fru M. Krøyer), Hobro (Joh. Mørch), Viborg (Tolderlund); S. Tisvilde (Frydensberg), Botanisk Have (Didrichsen), Landbohøjskolens Have (87 A. Bruun & 09!), Frederiksberg Kirkegaard (A. Bruun), Hvalsø Apoteks Have (72 see Samsøe Lund 74).

Cenococcum.

565. **Cenococcum geophilum** Fries S. M. III [66] & [227], Syll. VIII [871], Th. Fries 09 [266].

It is to be doubted if the small, hollow, black, brittle bales are true fungi; Th. Fries considers them to be dead and subfossile remnants of a fungus; others even consider them only a conglutination of humous matters which for unknown reasons assume this shape. They are often found in the lower strata and seem to belong to the diluvial layers of the period of the tundra-vegetation after the glacial period or during the interglacial periods (see Hartz 09 [117], [142], [144], [205]). It is also common in peat-bogs. In both of these places it is, no doubt, dead and subfossile. But where it occurs in an upper stratum it is always on a certain level above the stratum consisting of pure sand and in the layer containing the vegetable matters and most frequently saturated with humous acid. In such places I have found Cenococcum by thousands both in Calluneta and in Querceta in Jutland. I have never been able to find it in connection with any mycelium, and only very seldom have I found them to be divided into chambers inside such as delineated by Tulasne (Hypogaei).

It will, no doubt, be found everywhere where moore-formation occurs in the soil of forests, its presence has been noted in the sandy parts of Jutland and Seeland both under Picea, Fagus, Quercus and Calluna, the first known finding-place is J. a copse of oak near Herning (Oct. 78. P. E. Müller see R 84 j).

Plectascineae.

Gymnoasceae.

Gymnoascus.

566. **Gymnoascus ossicola** Rostrup 97 m [45], Syll. XIV [824], see fig. 6 tab. I.

Glomeruli subsphaeroidei vel pulvinati, 1—3 mm diam. primo albi, dein pallidi, hyphae ramosae, intricatae, uncinatae, hyalinae, 2 μ crassae, asci botryosa-congesti, breve stipitati, 8—9 μ diam., sphaeroidei, sporae subglobosae, hyalinae, octonae, 3,5—4,5 μ diam. 1 guttulatae.
In ossibus *Rheae americanae*. S. Landbohøjskolen (May 96 & April 97 Boas).

567. **Gymnoascus flavus** Kløcker 02 c. icon., Syll. XVIII [195].
On *Lucilia Caesar*. S. Gl. Carlsberg March 00.

Myxotrichum.

568. **Myxotrichum brunneum** R 95 a [206] c. icon., Syll. XI [615].

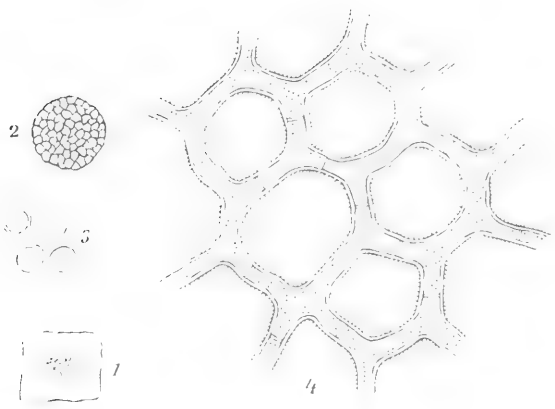


Fig. 15. Myotrichum brunneum.
1 nat size, 2 perithecium $\frac{20}{1}$, 3, spores $\frac{1000}{1}$, 4 mycelium $\frac{1000}{1}$.
, From R 94 a.

Acervuli globulosi, brunnei, copiosi, 0,5 mm diam., hyphae laxe anastomosantes, brunneae, pericipericae, rugulosae, septatae, 3,5 μ diam., conidia globulosa, copiosa, brunneo-pallida, 3—4 μ diam., saepius octona, hinc verisimillime ex asco oriunda, partem interiorem acervuli formantia.
S. København. *On Isaria densa* and the surrounding ground (Boas).

569. **Myxotrichum chartarum** Kze., Syll. IV [317], Fl. D. tab. 2277 fig. 1.
On old paper F. Skaarup (Dec. 1862).

Ctenomyces.

570. **Ctenomyces serratus** Eidam, Wt. II [17] c. icon., Syll. VIII [824].
On feathers of *Corvus*, woollen clouts etc. Sept.—Octob. S. Geelskov (O R.), Boserup Skov (90 O. R. see R 05 b [311]).

Aspergillaceae.

Anixiopsis.

571. **Anixiopsis stercoraria** E. C. Hansen 97 [131] c. icon., Syll. XIV [464], Syn: Eurotium stercorarium E. C. H. 76 [310], Syll. I [27].

On old dung of fox, J. Hjortlund (Aug. 74) later on cultivated in laboratorium.

Aspergillus.

572. **Aspergillus glaucus** Fries S. M. III [385], Syll. IV [64], Ldau VIII [126], Mucor glaucus Fl. D. tab. 777 fig. 2 & tab. 840 fig. 3, Müller 1767 [228], R 84 g, Monilia glauca Pers., Schum. no 1600, Mucor herbariorum Wigg., Schum. no 1596, Eurotium herb. Fries S. M. III [332], Syll. I [26], Wt. II [59] c. icon., Vandkandeskimmel (R 84 g, 04 a [161] c. icon., E. W. 81 [401]).

On decayed fruit, badly dried herbarium plants, old leather, bread etc.; common everywhere.

373. **Aspergillus repens** de By., Syll. I [26], Wt. II [60], Mangin 10.

On the same substrata as the preceding one; is stated by E. C. Hansen to have been found near Copenhagen.

374. **Aspergillus oryzae** (Ahlburg) Cohn, Syll. XI [592], Wt. II [61], Ldau VIII [128], Syn: Eurotium or. Ahl., Syll. I [28].

S. København (O. R. & Kløcker 06 [278]).

575. **Aspergillus flavus** Fries S. M. III [386], Syll. IV [69], Wt. II [63], Ldau VIII [129].

On wall-paper in Copenhagen, in a sample of air from Jægersborg (O. R. 08); often occurs in bee-hives causing a destructive disease among the bees (Aspergillomykose).

576. **Aspergillus fumigatus** Fresenius, Syll. IV [65], Ldau VIII [132] c. icon.

Recorded from abroad as a dangerous fungus which may cause diseases to birds and men thriving as well in the lungs as in the ears; in Denmark it has only been found in the air in Copenhagen (E. C. H. 82 & O. R. 08).

577. **Aspergillus sceptrum** (Fries)! Syn: Stachylidium scep. Fries S. M. III [390], Aspergillus niger v. Tiegh., Ldau VIII [137] c. icon., Sterigmatocystis nigra v. Tiegh., Syll. IV [75], Wt. II [63], Aspergillus nigricans Cooke, Syll. IV [70], Sceptromyces Opizii Cda, Syll. IV [166].

Common on fruits and acid fruit-juice; its spores are common in the air (Wilh. Jensen).

578. **Aspergillus ficuum** (Reich.) Wehmer, Ldau VIII [140], Syn: Ustilago fic. Reich., Syll. VII [457], Sterigmatocystis fic. Hennings.

Found in Copenhagen in figs completely filling them with a black powdery mass (March 97 Boldt, see R 99 a [271] & 02 a [443]).

579. **Aspergillus phoenicis** (Cda) Ldau VIII [140], Syn: Ustilago phoen. Cda, Syll. VII [459], Sterigmatocystis phoen. Pat. & Delacr., Syll. X [526].

Found in Copenhagen in dates completely filling them with a black powdery mass. Lagerheim (03) unites this species with the above. Found in Copenhagen (May 97, Boldt, see R 99 a [272], 02 a [443], and March 09 C. H. O.).

580. **Aspergillus candidus** Fries S. M. III [385], Syll. IV [66], Ldau VIII [149], Syn: Monilia cand. Pers., Schum. no 1601, Hvid Stænknaal (H. 37 [898]).

Widely diffused on dead and decayed plants, hay etc. On hoof of horses (see R 94 f [44]).

Penicillium.

Only Penicillium Wortmanni Kløcker produces the ascigerous form of fruit. All other species of this genus ought to have been stated under Fungi imperfecti; I have, however, stated them here just as the above species of Aspergillus because the ascigerous forms and the conidiferous forms are not furnished with special names. Even Penicillium crustaceum which, according to Brefeld, is able to produce ascigerous fructification, is unable to do so in Denmark (see Kløcker 03 b & 06 [283]). Rich. Westling has lately written an excellent monograph of the green species of Penicillium (11).

581. **Penicillium Wortmanni** Kløcker 03 c c. icon., Syll. XVIII [518], Ldau IX [733].

Found in the soil near København (Kløcker & O. R.).

582. **Penicillium crustaceum** Fries S. M. III [407], Ldau VIII [155], Syn: Mucor crust. L, Müller 67 [228], Pen. glaucum Link, Syll. IV [78], Byssus scoparius Müller Fl. D. tab. 897 fig. 1, Monilia penicillus Pers., Schum. no 1602, Penicillium fasciculatum Fries S. M. III [407], Syll. IV [79], Pen. bicolør Fries S. M. III [408], Syll. IV [82], Chromosporium maydis Sacc., Syll. IV [8], Skorpeagtig Penseltraad (H. 37 [899]), Penselskimmel (E. W. 81 [401]). Lit: R 84 g, 02 a [443] c. icon., 04 a [161] c. icon., Gram 82 [134].

Very common on bread, fruit and other food, moist vegetables etc., its spores occur in the air in abundance (see E. C. H. 82 & O. R. 08); Rostrup states that he has found it in Copenhagen in a 14 per cent solution of coppersulphate containing about 7 % of free sulphuric acid, it has also formerly been found on the same substratum in France and has been described as Penicillium cupricum Trabut (see also Petch 06).

583. **Penicillium camemberti** Thom., Ldau IX [730] c. icon.

Is always to be found in the cheese called "Chamembert".

584. **Penicillium roqueforti** Thom., Ldau IX [731] c. icon.

Is always to be found in the cheese called "Roquefort".

585. **Penicillium candidum** Fries S. M. III [409], Syll. IV [79] & X [528], Ldau VIII [164].

On *Aphis*. S. Botanisk Have. On living leaves of *Cycas*. S. Vanløse (Chr. Hansen). On living leaves of *Hordeum sativum*. S. Rosenfeld (June). On dead roots of *Brassica oleracea*. F. Middelfart.

Meliola.

586. **Meliola camelliae** (Cattaneo) Sacc., Syll. I [62], R 93 k [190] & 02 a [438].

On living leaves of *Camellia japonica* in hothouses. J. Brønderslev (L. Nielsen); S. Haveselskabets Have (Oct. 97).

Samarospora.

587. **Samarospora potamogetonis** Rostrup 92 g [75], Syll. XI [254], see tab. I fig. 22.

Perithecia subsuperficialia, membranacea, majuscula, atro-brunnea, astoma; asci globosi, 20 μ diam., octospori; sporidia cylindracea, hyalina, continua, appendice inaequali membranacea, samariformi aucta, 12—14 μ × 5 μ, bi-quadriguttata.

On the upper side of living leaves of *Potamogeton natans*. J. Vindt Mølle Sø near Viborg; S. Hvalsølille Sø ([25]/8 89).

Onygenaceae.

Onygena.

588. **Onygena corvina** Fries S. M. III [208], Syll. VIII [861], Fish. V [104] c. icon., Syn: Onyg. piligena Fries S. M. III [208], Syll. VIII [862], Piligena lycoperdioides Schum. no 1505, Fl. D. tab. 1740 fig. 2, Onygena ovina Schroet.

Growing on feathers and hair, is for instance found on owls' disgorging, feathers of crows and felt hats. Rostrup considers Sporotrichum lanatum which occurs on the same substratum to be its conidial stage. May—October.

F. Selleberg (O. R.); S. Geelskov (S. R.), Forsthaven, Boserup Skov ([16]/9 93 see R 95 a [207], again 1897 O. R.).

589. **Onygena equina** Fries S. M. III [207], Schum. no 1504, Fl. D. tab. 1309 fig. 1, Hovsvamp (R 04 a [162] c. icon.).

Grows on horns and hoofs of mammals all the year round. Rostrup has described (85 g [157]) a conidial form of fruit which he supposes to be related to this species and which he identifies with Tremella squamosa Schum. no 2152.

Fig. 16. Onygena ungulina.
a, 2 asci $\frac{800}{1}$, b, 2 spores $\frac{1000}{1}$, c, mycelium $\frac{1000}{1}$.
From R 94 f.

On hoofs of *Sus scrofa*, J. Krabbesholm Skov ($^{12}/_{11}$ 05!). On hoofs of *Equus*. J. Sødal near Viborg!, S. Geelskov (Muus), Lerchenborg (Nov. 82 Chr. Pedersen).

590. **Onygena ungulina** Rostrup 94 f [44], Syll. XI [440], Syn: Onygena caprina Fuck. var. ung. Fisch. V [107], ? Lycoperdon ung. Schum. no 1404, Reticularia ung. Fries S. M. III [89], Fl. D. tab. 1977 fig. 2.

Ascomatibus sessilibus, 2—4 mm lat., leniter curvatis, griseo-albis, e stratu medullari albido oriundis, maturitate intus brunneo-rufis; ascis numerosis, subglobosis, 14—20 μ diam.; sporis irregularibus, rotundato-polygoniis, 8—10 μ diam.

On hoofs of Equus. S. København, November.

Elaphomycetaceae.

Elaphomyces.

591. **Elaphomyces granulatus** Fries S. M. III [58], Syll. VIII [868], Syn: El. cervinus (Pers.) Schroet., Fisch. V [94], Lycoperdon cervinum L, Müller 1767 [227], Hjortesvamp (Müller 1763 [29]), Kornet Hjortesvamp (H. 37 [878]), Hjortetroffel (R 79 [23]).

Sketches in the Fl. D. tab. 1969 fig. 1 have been made from specimens collected by Dean Schade and sent to Hornemann. Tulasne supposes the sketches to be not quite like this species (Hypogaei [109]), on the other hand Fries (S. M. III [58] & S. V. [445]) has on the basis of this picture established a new species "Elaphomyces rugosus Fries". The fungus is certainly not rare, it has been found both under Coniferae, Salix, Fagus, Quercus, Calluna etc.; concerning its significance to the forest-trees see Reess (87) who has been reported in detail by Rostrup (Medd. fra Bot. For. vol. I [47]); see also R 02 a [441] and Th. Fries 09 [250].

It is usually sold by all druggists under the name of Boletus cervinus, Hjortespring.

J. Gjettrup (Overgaard see R 95 a [208]), Thy (P. D. Bruun), Højris (Schade), Nr. Mølle near Viborg!, Hald Egeskov!, Bølling (J. C. Muldbjerg), Stendalsgaard, Skovsende Plantage (Borck); F. Vejstrup Aaskov (R 79 [23]), S. Tisvilde Fyrreskov (R 95 a [208] & H. M. 90), Teglstrup Hegn (Exc. [24]/9 05), Ruderhegn (F. & W.), Aasevang (Joh. Lange), Dyrehaven (A. Bruun), Dæmpegaard (C. Hansen), Nørager, Slagelse (Sev. P.), Glænø (P. N. 77 c [327]), Køge Aas (E. W. 09), Vemmetofte Strandskov (Hertel).

592. **Elaphomyces aculeatus Vittadini,** Syll. VIII [869], Fisch. V [98], Th. Fries 09 [265].

S. Alindelille Skov (Exc. [10]/6 71 see Samsøe Lund 72, R 84 j [103]).

593. **Elaphomyces muricatus** Fries S. M. III [59], Th. Fries 09 [263], Syn: El. variegatus Vitt., Syll. VIII [867], Fisch. V [91], El. scaber (Willd.) Schroet.

S. Hornbæk Plantage ([17]/10 97 O. R.), Grib Skov (E. W.); Møens Klinteskov (R 05 b [309]).

Chaeromyces ("Choiromyces").

594. **Chaeromyces venosus** (Fries) Th. Fries 09 [240], Syn: Mylitta venosa Fries. Vet. Ak. Handl. 1830 [248], S. V. [436], Ch. meandriformis Vittadini 1831, Syll. VIII [900], Fisch. V [74] c. icon.

J. Vejlefjord Sanatorium (O. Hørring), Munkebjerg ([17]/7 88 Jak. Lge see R 89 i [228] again Exc. [25]/7 88).

Amylocarpus.

595. **Amylocarpus encephaloides** Currey, Syll. VIII [905], Th. Fries 09 [248], Lindau 99 c. icon.

J. Tannishus!; S. Lerchenborg (February 83 Chr. Pedersen see R 84 j), Højstrup (Klüver see R 88 c); Møen Liselund Strand under Lilleklint (O. R.).

Was all four times found on wood of *Quercus* or *Fagus* buried in the sand of the beach up to 25 cm. deep.

Perisporiales.

Erysiphaceae.

Concerning the limitation of the species of Erysiphaceae I follow the splendid monograph of the Erysiphaceae by E. Salmon. As to the names of the species I have been obliged to make some alterations con-

sequent to the rules adopted by the International Congress in Brussels 1910. Of the distribution of the single species it may almost only be said that they are common all over the country where their host-plants occur. They always occur in greater abundance late in summer and in autumn. The ascigerous fructification and the conidia are often associated and the relation of both stages is so evident for most species that I have simply stated the name of the conidial fructification as synonymous under the chief species. On a few host-plants, however, forms of Oidium will occur whose corresponding ascigerous fructification has not yet been found, therefore they have been stated afterwards as an appendix.

The separate species of Erysiphaceae are, according to investigations of Neger, Salmon, Marchal etc., said to be devided into several biological subspecies. Lit: E. & P. [325], Neger 05 b, Lindau 08 [183], Salmon 00.

Sphaerotheca.

596. **Sphaerotheca macularis** (Fries)!, Syn: Erysiphe mac. Fries S. M. III [237], Sphaerot. castagnei Lév., Syll. I [4], Sphaerot. humuli (de Cand.) Burrill, Salmon 00 [45], Mucor erysiphe L., Müller 1767 [228], Sphaerot. epilobii (de Cand.) de By., Syll. I [4], Oidium epilobii (Cda.) Sacc., Syll. IV [12], Oid. fragariae Harz, Syll. X [520], Humlens Meldug (R 02 a [431] & 04 a [158]).

Humulus lupulus, Euphorbia dulcis, Spiraea venusta, Filipendula hexapetala & ulmaria, Argentina anserina, Potentilla procumbens, reptans & erecta, Comarum palustre, Geum urbanum & rivale, Alchimilla vulgaris & arvensis, Fragaria cult. (see Salmon 01), *Epilobium roseum, montanum, palustre, parviflorum & hirsutum.*

597. **Sphaeroteca fuliginea** (Fries)!, Syn: Erysiphe fuliginea Fries S. M. III [238], Sphaer. hum. var. fuliginea (Schlecht.) Salmon 00 [45].

Impatiens nolitangere, Odontites rubra, Euphrasia spp., Melampyrum vulgatum & silvaticum, Alectorolophus major, Veronica longifolia, Arnica montana, Genecio Jacobaea, Bidens cernuus, Crepis paludosa, Taraxacum spp., Leontodon autumnalis.

598. **Sphaerotheca mors uvae** (Schweinitz) Berk. & Curt., Syll. I [5], Stikkelsbærdræberen (R 05 e [369]), Amerikansk Stikkelsbærmeldug, Lit: R 04 d, 04 e, 06 b, F. K. R. 07 b, Lind & Ravn 08 & 10 [40], Lind 10 k.

This pest is imported to Europe from the United States. Massee recorded its first appearance into Irland in the Gardeners Chronicle Aug. 25. 1900.

It was imported to Denmark in the following year and has later on spread very much. The conidial stage is found in May to November; ripe ascigerous fructification has been observed in March.

Very common on *Ribes grossularia*, rare on *Ribes rubrum, nigrum & alpinum.*

599. **Sphaerotheca pannosa** (Fries) Lév., Syll. I [3], Syn: Erysiphe pan. Wallr., Fries S. M. III [236], Eurotium rosarum Fries S. M. III [332], Oidium leucoconium Desm., Syll. VIII [82], Rosens Meldug (R 84 i), Lit: R 80 a [138], 02 a [431], 04 a [158], Er. 85 [28]. Lind 10 k [230].

This is a fungus which is fond of dry weather, accordingly it is most destructive in hot and dry summers (R 02 o), and it is never found in hothouses. Besides on Rosa alba, arvensis, canina etc. it has been found on Prunus persica on fruits and young twigs, Rostrup considers it a special biological form (R 87 g, 92 j [58], 93 o [21], 96 o [126]); its ascigerous fructification has not yet been found on the last-mentioned host-plant.

Podosphaera.

600. **Podosphaera leucotricha** (Ell. & Ev.) Salmon, Syn: Sphaerotheca mali Burrill, Oidium farinosum Cooke, Syll. X [520], Ldau VIII [83], Æbletræets Meldug (R 02 a [430], Lind & Ravn 10 [27]), Lit: R 92 t, 02 a [430], Magnus 98, Lüstner 01 & 10, Lind 11 b.

The mycelium hibernates in the buds, the conidial fructification will occur all through summer on many different sorts of Pirus malus, the ascigerous stage is rather rare and is only found late in autumn. I have also a few times found Oidium farinosum on young trees of Pirus communis. It was first found in this country near Tangegaard on May 28. 90; as late as in 1902 (R 02 a) it was rare in Denmark, since then it has spread very much.

601. **Podosphaera clandestina** (Fries) Lév., R 80 a [138], Syn: Erysiphe cland. Fries S. M. III [238], Podosphaera oxyacanthae (de Cand.) de By., Syll. I [2], Podos. myrtillina Kze, Syll. I [2], Erysiphe myrt. Fries S. M. III [247], Oidium crataegi Grog. Ldau VIII [82], Hvidtjørnens Meldug (R 02 a [430]), Blaabær Meldug (R 04 a [158]).

Crataegus monogyna common. *Sorbus aucuparia*, B. (Neger 06). *Cydonia japonica*. S. (R 92 j [59]). *Vaccinium myrtillus*. B. Paradisbakkerne (R 06 dd [377]). *Vaccinium uliginosum*. J. Vindum Skov!; S. Gammelmose (R 06 cc [357]).

602. **Podosphaera tridactyla** (Wallr.) de By., Syll. I [2], Kræge-Meldug (R 04 a [157]), Blommetræets Meldug (R 02 a [429], Lind & Ravn 10 [37] c. icon.), Lit: R 80 a [138], 93 o [20].

Prunus domestica, insititia, padus.

Erysiphe.

603. **Erysiphe graminis** Fries S. M. II [242], Syll. I [19], Oidium monilioides Link, Syll. IV [46], Ldau VIII [78], Oid. tritici Lib., Syll. IV [46], Oid. rubellum Sacc., Syll. IV [46], Oid. bulbigenum Sacc., Syll. IV [47], Græssernes Meldug (R 02 a [435] c. icon., 04 a [158]).

By experiments in his laboratory W. Johannsen has proved that Hordeum which obtained ample nitrogenous nourishment was severely affected while Hordeum which obtained no nitrogenous nourishment was not affected by this fungus (see R 85 h [295]).

Dactylis glomerata, Bromus secalinus, commutatus, racemosus, mollis, ramosus, Festuca arundinacea, Poa annua, trivialis, pratensis, Avena sativa, Milium effusum, Agrostis spica venti, Brachypodium silvaticum, Cynosurus cristatus, Anthoxanthum odoratum, Hordeum sativum, Triticum repens & sativum (R 80 d), *Secale cereale, Lolium multiflorum & temulentum.*

604. **Erysiphe communis** Fries S. M. III [239], Syll. I [18], Syn: Er. pisi de Cand, Er. Martii Lév., Syll. I [19], Er. umbelliferarum (Lév.) de By., Syll. I [17], Er. polygoni Fries S. M. III [242], Almindelig Meldug, Ærteblomsternes Meldug & Skærmplanternes Meldug (R 02 a [435], R 04 a [159]).

Common.. Noticed on *Urtica dioeca, Rumex acetosella, Polygonum aviculare, Alyssum calycinum* (conidia only), *Capsella bursa pastoris* (conidia), *Brassica campestris & napus* (conidia), *Hypericum hirsutum, perforatum, quadrangulum, Geranium pusillum, dissectum, molle, palustre, Lathyrus pratensis, Pisum sativum* (see Dybdahl 77 [262]), *Vicia cassubica, Onobrychis sativa, Lathyrus pratensis, Melilotus officinalis, Trifolium procumbens, minus, hybridum, arvense, incarnatum, pratense, medium, Lupinus angustifolius & luteus, Medicago falcata & sativa* (M. L. M. 07), *Ononis spinosa, Cytisus laburnum, Lythrum salicaria, Circaea lutetiana, Caltha palustris, Clematis Jackmanni, Aquilegia spp., Aconitum napellus, Delphinium ajacis & elatior, Ranunculus lingua, flammula, acer, repens, sardous, Actaea spicata, Thalictrum minus & flavus, Anthriscus silvester, Pimpinella saxifraga, Angelica silvestris, Pastinaca sativa, Heracleum sphondylium, Torilis anthriscus, Campanula rapunculoides, Valerianella olitoria & Morisonii, Scabiosa columbaria, Succisa praemorsa, Knautia arvensis, Cirsium arvense.* J. Viborg (! Exs. Vgr. no 913).

605. **Erysiphe tortilis** Fries S. M. III [243], Syll. I [17], Kornel Meldug (R 02 a [436] & 04 a [159]).

On the leaves and fruits of *Cornus sanguinea* quite common (R 80 a [141]) f. inst. F. Skaarup (Sept. 76); S. Alindelille (R 97 n); B. Hammeren (Neger 06).

606. **Erysiphe labiatarum** Fries S. M. III [242], Syn: Er. galeopsidis de Candolle, Syll. I [16], Salmon 00, Oidium lamii Rabenh., Læbeblomsternes Meldug (R 04 a [159]).

Noticed on *Ballota nigra & ruderalis, Stachys paluster, silvaticus × paluster, silvaticus, Leonurus cardiaca, Galeopsis tetrahit & speciosa, Lamium galeobdolon, album, purpureum, amplexicaule × purpureum, amplexicaule, Ajuga pyramidalis* (Oidium only), *Origanum vulgare* (Oidium).

607. **Erysiphe cichoriacearum** Fries S. M. III [241], Salm. 00 [193], R 02 a [436], Syn: Er. lamprocarpa (Wallr.) Lév., Syll. I [16], Er. Linkii Lév., Syll. I [16], Er. horridula (Wallr.) Lév., Syll. I [16], Oidium chrysanthemi Rabh., Syll. IV [43], Ldau VIII [87], Oidium myosotidis Rabh., Oidium ery-

siphoides Fries partim., Kurvblomsternes & Rubladenes Meldug (R 04 a [159]).

Noticed on *Cucumis sp.* & *Cucurbita sp. cult.* (see Dybdahl 77 [204], ripe perithecia 1/11 1907!), *Plantago major, lanceolata, maritima, coronopus, Lithospermum arvense, Pulmonaria officinalis, Echium vulgare, Asperugo procumbens, Myosotis versicolor, hispida, silvatica, arvensis, caespitosa, Anchusa arvensis, Symphytum officinale* & *tauricum, Cynoglossum officinale, Verbena cult., Verbascum thapsus* & *nigrum, Galium aparine* & *verum, Valeriana sambucifolia, Lappa officinalis, nemorosa, glabra, tomentosa, Onopordon acanthium, Cirsium oleraceum* & *heterophyllum, Centaurea nigra, pseudophrygia, scabiosa, Eupatorium cannabinum, Filago germanica, Gnaphalium silvaticum, Artemisia vulgaris* & *abrotanum, Tanacetum vulgare, Achillea ptarmica, Bellis perennis, Chrysanthemum parthenium* & *indicum* (Bruun 98), *Senecio vulgaris, Inula salicina, Aster cult., Cichorium intubus, Sonchus asper, arvensis, paluster, Hieracium pilosella, vulgatum, rigidum, Lactuca muralis, Scorzonera humilis* & *hispanica, Tragopogon porrifolius.*

Microsphaera.

608. **Microsphaera alni** (Fries) Wt., Syn: Erysiphe alni Fries S. M. III [244], Microsphaera penicillata (Wallr.) Lév., Syll. I [13], Calocladia pen. Lév., R 80 a [140].

Noticed on the leaves of *Alnus glutinosa* & *incana* and *Viburnum opulus* (Exs. Thüm. Myc. no 958).

609. **Microsphaera divaricata** (Fries) Lév., Syll. I [11], Syn: Erysiphe div. Fries S. M. III [243], Calocladia div. Lév., R 80 a [140], Microsphaera alni var. div. Salmon 00 [146].

On the leaves of *Frangula alnus* and *Rhamnus cathartica* (Exs. Thüm. myc. no 2084). Quite common (R 80).

610. **Microsphaera astragali** (Fries) Trev., Syll. I [12], Syn: Erysiphe ast. de Cand., Fries S. M. III [241], Astragel-Meldug (R 04 a [158]).

On leaves and stems of *Astragalus glycyphyllus,* common, July—Sept.

611. **Microsphaera berberidis** (Fries) Lév., Syll. I [13], Syn: Erysiphe berb. de Cand., Fries S. M. III [244], Calocladia berb. Lév., R 80 a [140], Oidium berb. Thümen, Syll. IV [45], Ldau VIII [81], Berberis-Meldug (R 04 a [158]).

On living leaves of *Berberis vulgaris* & *Neubertii,* Sept.—October.

612. **Microsphaera evonymi** (Fries) Sacc., Syll. I [11], Salmon 00 [125], Syn: Erysiphe ev. de Candolle, Fries S. M. III [244], Calocladia comata (Wallr.) Lév., R 80 a [140], Benved-Meldug (R 04 a [158]).

On leaves of *Evonymus europaeus,* common.

613. **Microsphaera grossulariae** Lév., Syn: Erysiphe penicillata

var. grossulariae Fries S. M. III [244], Stikkelsbærmeldug (Dybdahl 79 [342], R 02 a [434]), Europæisk Stikkelsbærmeldug (Lind & Ravn 10 [43]).

On *Ribes grossularia*, common (see R 80 a [140], 86 h [143]).

Uncinula.

614. **Uncinula adunca** (Fries) Lév., Syll. I [7], R 80 a [139], Syn: Erysiphe ad. Fries S. M. III [245], Uncinula salicis Wt., I [2], Salmon 00 [81], Pilens Meldug (R 02 a [432] & 04 a [158]).

On *Salix amygdalina, alba* × *fragilis, caprea, caprea* × *cinerea, repens. Populus nigra* & *var. pyramidalis.* Aug.—Octob.

615. **Uncinula bicornis** (Fries) Lév., Syn: Erysiphe bic. Fries S. M. III [244], Uncinula aceris Sacc., Syll. I [8], Salmon 00 [90], Oidium aceris Rbh., Syll. IV [44], Ldau VIII [81], Lønnens Meldug (R 02 a [432] & 04 a [158]).

Common on the leaves of *Acer campestre* & *pseudoplatanus* (R 80 a [139]).

616. **Uncinula Tulasnei** Fuckel, Syll. I [9], Er. 85 [42], Syn: Unc. aceris var. Tulasnei Salmon 00 [93].

Common on the leaves of *Acer platanoides.*

617. **Uncinula prunastri** Sacc., Syll. I [7], Salmon 00 [95], Syn: Erysiphe adunca var. prunastri Fries S. M. III [245].

On the leaves of *Prunus spinosa* (R 80 a [139]).

618. **Uncinula necator** (Schweinitz) Burrill, Salmon 00 [99], Syn: Erysiphe nec. Schw. Syll. I [22], Er. Tuckeri Berk., Syll. I [20], Oidium Tuckeri Berk., Druesvampen (R 82 b [8]), Vinstokkens Meldug (R 02 a [432]).

This pest, which has been known in England since 1845 and in France since 1848, first appeared in Denmark in 1857 in the garden of Rosenborg (see Holst 57 & Vaupell 58), since then it has spread all over the country causing great damage both in hothouses and on wall-vines.

Phyllactinia.

619. **Phyllactinia guttata** (Fries) Léveillé, Syn: Erysiphe gut. (Wallr.), Fries S. M. III [245], Phyllactinia suffulta (Reb.) Sacc., Syll. I [5], Phyl. corylea (Pers.) Karst., Salmon 00, Sclerotium erysiphe Schum. no 1390, Hasselens Meldug (R 02 a [432] & 04 a [158]).

Common on the under surface of leaves of *Betula verrucosa* & *pubescens, Alnus glutinosa* & *incana, Corylus avellana* & *americana. Carpinus betulus, Fagus silvatica, Fraxinus excelsior* & *ornus.*

Oidium.

620. **Oidium quercinum** Thümen, Syll. IV [44], Ldau IX [724], Syn: Oid. querc. var. gemmiparum Ferraris. Ldau IX [724].

This pest which had scarcely been known before 1907 when it was found in France, spread all over Europe in 1908 and also occurred in several places in Denmark in the same year, for instance near Rødkærsbro (Aug. 7. 08 Moldenhawer); since then it has reappeared every year in great abundance, the first set of leaves are scarcely affected, but the leaves and shoots produced in summer are most frequently quite white from the attack of this fungus; it seems to hibernate in the buds.

It is most common on *Quercus robur*, rarer on *Quercus sessiliflora* and *Quercus coccinea*. On *Fagus silvatica* it is found on suckers.

621. **Oidium violae** Passer., Syll. IV [43], Ldau VIII [85].
On *Viola tricolor*, Rostrup records a very destructive attack (R 76 b [40] & 88 n [45]).

622. **Oidium eucalypti** Rostrup ad interim 02 a [436].
On seedlings of *Eucalyptus*, S. Botanisk Have Nov. 88.

623. **Oidium oxalidis** Mac Alp.
Oxalis cult. in a hothouse. S. Lundehuset ([28]/12 10!).

624. **Oidium evonymi-japonici** (Arc.) Sacc., Syll. XVIII, Ldau IX [726], Salmon 05 c. icon.
On leaves of *Evonymus japonicus*. S. Tystofte ([1]/7 07!).

625. **Oidium valerianellae** Fuckel, Syll. IV [41], Ldau VIII [87].
Its attacks cause hypertrophies and an ampler ramification (see R 85 a).
On leaves and stems of *Valerianella olitoria* & *Morisonii*.

Perisporiaceae.

Anixia.

626. **Anixia spadicea** Fuckel, Syll. I [35], Wt. II [57] c. icon.
On dung of mammals, decaying leaf etc. (Hansen 76 [340]).

Asterina.

627. **Asterina veronicae** (Lib.) Cooke, Wt. II [78], Schroeter 08 [257], Syn: Dimerosporium abjectum (Wallr.) Fuckel, Syll. I [51].
On living leaves of *Veronica officinalis*. May—October. J. Bruddal!, Thorsager!, F. Brudager ([18]/10 73); S. Jonstrup Vang; B. Ekkodalen (R 06 dd).

Lasiobotrys.

628. **Lasiobotrys lonicerae** (Fries) Kze., Syll. I [30], Wt. II [70] c. icon., Syn: Dothidea lon. Fries S. M. II [557].
On living leaves of *Lonicera xylosteum*. Møen Nordfelt ([25]/8 09!).

Perisporium.

629. **Perisporium funiculatum** Preuss., Syll. I [56], Wt. II [67], Syn: Preussia fun. Fuckel.

On dung of mammals (Hansen 76 [340]).

Apiosporium.

Most species of Apiosporium correspond to forms of Torula, for instance

Apiosporium	ulmi	corresponds to	Torula	ulmicola (see Fuckel).
—	rhododendri	—	—	rhododendri (see Wt. II [72]).
—	erichophila	—	—	Lechleriana (see v. Höhnel 09 [1197]).

630. **Apiosporium pinophilum** (Fries) Fuckel, Syll. I [30], Wt. II [72], R 79 b [83] & 02 a [438], Syn: Antennaria pinophila Fries S. M. III [231].

Abies alba common; *Pinus montana*. J. Bordrup Klit.

Capnodium.

631. **Capnodium salicinum** Mont., Syll. I [73], Wt. II [75]. Its conidial fructification is called Torula fumago Fries S. M. III [502], Fumago vagans Pers., Cladosporium fumago Link, R 80 a [146] & 81 a [94], Branddug (R 93 k, 96 e, 02 a [439]).

Common on living leaves of all sorts of plants.

Microthyriaceae.

Myiocropon.

632. **Myiocropon lycopodii** Rostrup 92 g [74], Syll. XI [379], see tab. II figg. 23—24.

Perithecia minuta, nigra; asci 25 μ × 5 μ, paraphysati; sporidia oblongata, 6 μ · 1,5 μ, continua.

Lycopodium complanatum. J. Undallslund ([14]/8 1889). *Lycopodium chamaecyparissus*. J. Utoft Plantage.

Asterella.

633. **Asterella Karstenii** Starbäck, Syll. IX [399].

On the leaves of *Comarum palustre*. F. Skaarup ([30]/7 83).

Microthyrium.

634. **Microthyrium pinastri** Fuckel, Syll. II [664], Wt. II [81].
Very common on *Abies alba* appearing on twigs and the dead but still adhering leaves as a black cover. B. Almindingen (Neger 06).

635. **Microthyrium cytisi** Fuckel, Syll. II [663], Wt. II [80].
On twigs of *Genista tinctoria*. J. Nebsager (July 91 O. R.).

Hypocreales.

Hypomyces.

The genus Hypomyces is interesting by the numerous phases of existence through which many of its members pass. Many of the conidial forms of fructification have been described as autonomous species of Mucedineae, under the genera Sepedonium, Verticillium, Dactylium etc., other forms are to be found without special names delineated in Plowright's Monograph of the British Hypomyces (82) and in other places. The most thoroughly examined generical relations are the folowing:

Hypomyces	aurantius	corresp. to	Diplocladium minus Bon. (Tul. Carp. III [43]).
—	chrysospermum	—	Sepedonium chrys. Fries (Tul. carp. III [49] & Bref. Unt. X [184]).
—	ochraceus	—	Blastotrichum puccinioides Preuss & Verticillium agaricinum Cda. (Tul. Carp. III).
—	pezizae	—	Stephanoma strigosum Wallr. (see Bref. X [187]).
—	rosellus	—	Dactylium dendroides Fries (Tul. Carp. III).

636. **Hypomyces arachnoideus** Schroeter, Syll. XI [356].
Parasitical on *Corticium* sp. S. Boserup ([10]/[10] 97 L. K. R. see R 99 a [265]).

637. **Hypomyces aurantius** (Fries) Tul., Syll. II [470], Wt. II [134], Syn: Sphaeria aur. Pers., Fries S. M. II [440], Schum. no 1293, Orangefarvet Støvkugle (H. 37 [864]).
Polyporus varius. F. Klingstrup; L. Stensgaard. *Polyporus squamosus*. S. Dronninggaard (O. R.), Valby (O. R.). *Polyporus betulinus*. S. Teglstruphegn.

Polyporus giganteus. S. Næsbyholm. *Polyporus versicolor.* J. Fredrikshavn!; F. Skaarup; S. Lillerød. *Daedalea gibbosa.* F. Skaarup. *Collybia velutipes.* S. København.

638. **Hypomyces chrysospermus** Tulasne, Syll. II [467], Wt. II [132] c. icon., the conidial fruit is called Uredo mycophila Pers., Schum. no 1531, Reticularia chrysospermum Bull., Sepedonium chrys. Fries S. M. III [438], Syll. IV [146], Ldau VIII [219] c. icon.

Tulasne is the first who has described the ascigerous fructification, so the name he gave the species is to be preferred to all the older ones which only indicate the conidial forms of fruit.

C. Gad has demonstrated by cultural experiments the generic relation between Sepedonium chrysospermum Fries and Hypomyces chrys. Tul.

Boletus spp. J. Eskær in Salling (E. W.), Sødal!, Viborg (Gad); F. Skaarup; S. Bøllemose (Kjærskov).

639. **Hypomyces lateritius** (Fries) Tulasne, Syn: Sphaeria lat. Fries S. M. II [338], Hypomyces deformans (Lagger) Sacc., Syll. II [475], Wt. II [136], Peckiella Vuilleminiana (Maire) Sacc., Syll. XVI [560].

Lactarius deliciosus. J. Buderupholm Skov ($^{3}/_{9}$ 02 see R 05 b [310]); S. Ruderhegn (V. A. P.), Jonstrup Vang (Raunkiær), Dyrehaven near Jægersborg (Oct. 93 V. A. P. & $^{28}/_{9}$ 97 O. Rützou see R 99 a [266]).

640. **Hypomyces rosellus** (Fries) Tul., Syll. II [468], Wt. II [132], Syn: Sphaeria rosella Fries S. M. II [441].

Polyporus annosus. S. Ruderhegn & Ermelunden (O. R.); B. Blykobbe Plantage. *Polyporus velutinus.* J. Hald (Gad). *Polyporus giganteus.* S. Kildeskoven (O. R.). On brittle wood. S. Ruderhegn (L. K. R.).

641. **Hypomyces tomentosus** Fries in herb. Berk., Syll. II [475] & IX [954].

On fungi. S. Zoologisk Have (Sept. 95).

642. **Hypomyces torminosus** (Mont.) Tul., Syll. II [471], Wt. II [135].

Lactarius torminosus. S. Geelskov ($^{16}/_{9}$ 10 O. R.).

643. **Hypomyces Tulasnearum** Plowr., Syll. II [473], Syn: Peckiella Tul. Sacc., Syll. IX [944].

S. Nørreskov by Fureso (O. R.).

644. **Hypomyces violaceus** (Fries) Tulasne, Syll. II [473], Wt. II [133], Syn: Sphaeria viol. Schmidt, Fries S. M. II [441].

On *Fuligo septica.* S. Ruderhegn (Sept. 90 O. R.).

645. **Hypomyces luteo-virens** (Fries)!, Syn: Sphaeria lut.-vir. Fries S. M. II [339], Hypomyces viridis (A. S.) Karst., Syll. II [472], Wt. II [135], Peckiella vir. Sacc., Syll. IX [944].

On *Russula* sp. S. Aldershvile ($^{26}/_{9}$ 97 L. K. R. see R 99 a [265]).

Melanospora.

646. **Melanospora aculeata** Hansen 76 [305] c. icon., Syn: Sphaeroderma ac. Sacc., Syll. II [460].

On dung of *Cervus*. S. Basnæs (Febr. 75 E. C. H.).

647. **Melanospora fimicola** Hansen 76 [305] c. icon., Wt. II [94], Syn: Sphaeroderma fim. Sacc., Syll. II [460].

On old dung of *Oves*. J. Manø ($^{1}/_{10}$ 74 E. C. H.).

648. **Melanospora lagenaria** (Fries) Fuckel, Syll. II [462], Wt. II [97], Syn: Sphaeria lag. Fries S. M. II [472].

On *Polyporus adustus*. S. Sjælsølund!, Dyrehaven ($^{24}/_{9}$ 81 V. Sarauw again Sept. 89 & March 03 O. R.). *Polyporus chioneus*. S. Nørreskov. *Stereum hirsutum*. S. Dyrehaven.

649. **Melanospora chionea** (Fries) Cda., Syll. II [461], Wt. II [96] c. icon., Syn: Sphaeria chion. Fries S. M. II [96].

On cones of *Abies alba*. S. Klampenborg ($^{28}/_{4}$ 89 O. R.).

Nectriella.

650. **Nectriella chrysites** (West.) Sacc., Syll. II [450], Wt. II [110].

On trunks of *Carpinus betulus*. S. Frederiksberg Have, October.

651. **Nectriella Rousseliana** (Mont.) Sacc., Syll. II [452], Wt. II [109] c. icon.

It develops two different stages of conidial fructification, both Volutella buxi (Fries) Berk., Syll. IV [685], Ldau IX [493], Syn: Fusisporium buxi Fries S. M. III [447], Fusidium buxi Schmidt and Verticillium buxi Awd., Syll. IV [155], Ldau VIII [324] (see Fuckel, Schroeter 08 [253] etc.).

Rostrup still further considers Macrophoma Candollei as generically related to the present fungus (02 a [499]).

Common on fading leaves of *Buxus sempervirens*.

Nectria.

Although the species of Nectria are very conspicuous on account of their bright colour, and though most of the species are of very considerable interest to the phyto-pathologists as they cause much damage to the cultivated plants their life-cycle has, till now, been too little investigated. As is the case with most species of Hypocreaceae their conidial fructifications are of great importance to their propagation. Most of them produce one or more different forms of lower fructifications from the same stroma.

The best known is Nectria cinnabarina whose young stroma produces Tubercularia vulgaris (see Tulasne); analogous to it are:

Nectria brassicae corresp. Tubercularia brassicae (see R 89 i [235]).
— sinopica — — sarmentorum (see Tul. & Bref.)
— Desmazierii — — versicolor.
Pleonectria Lamyi — — berberidis, the latter also corresponds to Sphaeronemella Mougeottii (see Jaap 08 [35]).

Many species of Nectria correspond to forms of Fusarium viz:

Nectria aquaeductum corresp. Fusarium moschatum (see Lagerheim).
— leptosphaeriae — — sphaeriae (see Bref. 91 [175]).
— ditissima — — Willkommii.
— gibbera — — Fuckelii (see Fuckel).
— rubi — — rubi (see Osterwalder 11).
— graminicola — — nivale.
Calonectria pyrochroa — — platani (see Tul. Carp. III).

Other species of Nectria correspond to Dendrodochium and Illosporium, two formgenera very closely connected Tuberculina, viz:

Nectria Magnusiana corresp. Dendrodochium epistroma (see v. Höhnel).
— tuberculata — — nectriae.
— Fuckelii — Illosporium coccineum.
— lichenicola — — carneum.

And finally there are undoubtedly also within the formgenus of Zythia a number of forms corresponding to species of Nectria or to other species of Hypocreaceae, for instance:

Nectria Keithii corresp. Zythia brassicae.
Nectriella Versoniana — — Versoniana.

652. **Nectria Magnusiana** Rehm, Syll. II [486], Wt. II [114].
On *Valsa stellulata* & *Diatrypella quercina*. S. Filosofgangen by Sorø (April 80 V. Sarauw). *Diatrypella pulvinata*. J. Skanderborg (F. & W. 09 [316]).

653. **Nectria episphaeria** Fries S. V. [388], Syll. II [497], Wt. II [121], Syn: Sphaeria ep. Fries S. M. II [454].
Valsa. F. Skaarup. *Valsa scabrosa*. S. Jægersborg (O. R.). *Valsa flavovirens*. S. Øverod!, Sorø. *Diaporthe rudis*. S. Charlottenlund. *Diaporthe leiphaemia*. S. Ruderhegn!. *Diatrype stigma*. F. Klingstrup, Holmdrup; S. Ruderhegn & Geelskov (O. R.). *Diatrype disciformis*. S. Ruderhegn (O. R.). *Nitschkia cupularis*. S. Boserup Skov (O. R.). *Quaternaria Persoonii*. S. Sorø!. *Ustulina vulgaris*. J. Nebsager (O. R.).

654. **Nectria cosmariospora** Cesati & de Not., Syll. II [503], Wt. II [125].
This fungus is, no doubt, limited to the resupinate form of Polyporus radiatus, I have never been able to find it on other Polypo-

raceae. Rabenhorst's original specimen of Cosmospora coccinea (Fungi Europaei no 459) is also on the same Polyporus. Saccardo and Winter write that it is to be found on "Polyporus ferrugineus", but none of them states this name among Polyporaceae (see also v. Höhn. 07 a). Quite common; Rostrup discovered it for the first time in F. near Svenborg October 24. 62).

655. **Nectria Fuckelii** Sacc., Syll. II [498], Wt. II [121].
On *Xanthoria parietina*. J. Constantinsborg ([27]/12 07, F. & W. 09 [316]).

656. **Nectria lichenicola** (Ces.) Sacc., Syll. II [498], Wt. II [122].
On *Peltigera canina*. F. Klingstrup, Skaarup; S. Ravnholt Hegn (O. R.).

657. **Nectria cucurbitula** Fries S. V. [388], Syll. II [484], Wt. II [114], Syn: Sphaeria cuc. Fries S. M. II [415], Lit: R 89 a [24] c. icon., 90 a [212], 02 a [495].

It is a fungus whose attacks are rather destructive to Coniferae and for this reason Rostrup was several times interested in studying it. He states that particularly trees planted in moist soil or such trees as are planted so closely that the moist air remains among them are attacked by this pest. It may occur on the thickest part of the trunk as also on the thin branches on the top. Rostrup first discovered it in 1883.

Picea excelsa common (R 85 o [9] & 93 a [113]). *Abies alba*. J. Viborg; B. *Pinus montana*. J. Silkeborg (R 96 q [121]). *Pinus strobus*. J. Hinnerup, Stenderup (R 85 o [8]); S. Geelskov, Gammelmose.

658. **Nectria chlorella** (Fries) Tulasne, Syll. II [487], Wt. II [115], Syn: Cenangium chlor. Fries El. II [21].
Strobus excelsa. S. Landbohøjskolens Have.

659. **Nectria graminicola** Berk. & Br., Syll. II [492], Wt. II [120].
Common on rotten grasses, f. inst. *Secale cereale*, June.

660. **Nectria cinnabarina** Fries S. V. [388], Syll. II [479], Wt. II [110] c. icon., Syn: Sphaeria cin. Fries S. M. II [412], Tubercularia vulgaris Fries, Tuberc. pruni Schum. no 1373, Fl. D. tab. 2336 fig. 2, Tub. populi Schum. no 1375, Tuberc. pruni Schum. no 1373, Tuberc. artemisiae Schum. no 1371, Zinnoberfarvet Støvkugle (H. 37 [862]), Cinnobersvampen (Lind & Ravn 10 [53]), Lit: R 83 c, 89 a [24], 89 j [749], 90 a [215] c. icon., 94 l, 01 l, 02 a [496] c. icon., 02 v, 06 s.

It has been found on more than 50 different trees and bushes often causing considerable damage especially when they have first been weakened by frost, wounds etc. The habitus of the fungus is rather different according to the different host-plants, and it is to be examined if there are not more biological forms.

661. **Nectria ribis** (Fries) Oudemans, Syll. II [480], Wt. II [111], R 02 a [498],

Syn: Sphaeria ribis Tode, Fries S. M. II [413], Sph. appendiculata Schum. no 1311, Ribsens Støvkugle (H. 37 [863]).

Common on branches of *Ribes*.

662. **Nectria peziza** Fries S. V. [388], Syll. II [501], Wt. II [124], Syn: Sphaeria pez. Tode, Fries S. M. II [452], Schum. no 1291, Sph. miniata Hoffm., Schum. no 1292.

On old stumps, especially of *Fagus silvatica*, common. J. Fredrikshavn!; Fænø (Exc. [14]/7 72); F. Skaarup; S. Folehaven (V. S.), Dyrehaven (O. R.), Boserup, Holsteinborg; L. Stensgaard.

663. **Nectria coryli** Fuckel, Syll. II [483], Wt. II [114].

Salix aurita. J. Rindsholm. *Corylus avellana* & *Prunus spinosa*. F. Skaarup.

664. **Nectria dematiosa** (Schw.) Berk., Syll. II [506].

Morus rosea. S. Landbohøjskolens Have.

665. **Nectria ditissima** Tulasne, Syll. II [482], Wt. II [113]. Frugttræernes Kræft, Bøgekræft, Askekræft (R 02 a [488] c. icon.), Lit: R 80 a [170] c. fig., 83 d [290] c. fig., 84 g, 89 a [22], 92 t, 96 o [125], 02 x, Brinch 93, Lind 10 k etc.

The conidial fructification corresponding to Nectria ditissima has been delineated by Tulasne (Carp. III); he names it Tubercularia minor, and Brefeld (Unters X tab. IV fig. 24) delineates both one-celled and multi-celled conidia produced by the same stroma. No doubt the one-celled form is the same as that which Link called Fusidium candidum (Ldau VIII [61], Syll. IV [27]). The same form is common on young branches of Pirus malus, and it is that which Rostrup (02 a etc.) indicated as Myxosporium mali and Lindau (IX [551]) describes and delineates as Fusarium Willkommii.

It has been found on branches and trunks of several cultivated trees causing much damage in gardens and forests; Rostrup also writes that it is a pest which is increasing at present; it was first found in this country in 1821 (Niemann see R 02 a).

Salix alba. S. Fredriksborg, København (R 93 a). *Salix vitellina*. S. Eskildstrup. *Populus alba*. J. Viborg (R 93 a [112]). *Populus deltoides*. J. Rindsholm; L. Christianssæde. *Alnus glutinosa*. F. Brændeskov. *Corylus avellana* & *Carpinus betulus*, *Quercus robur*. J. Viborg (R 93 a & 96 q). *Fagus silvatica* common (R 90 a [310]). *Ulmus montana*. S. Fortunen *Acer pseudoplatanus* (R 96 q [121]). *Aesculus hippocastanum*. F. Skaarup. *Tilia parvifolia*. Møen Ulfshale (R 96 q [121]). *Platanus orientalis*. F. Ronninge Søgaard. *Pirus communis* & *malus* (R 92 m) and *Sorbus aucuparia* common. *Prunus armeniaca* & *avium*. *Cytisus laburnum*. S. Dronninggaard (O. R.). *Fraxinus excelsior* very common.

666. **Nectria coccinea** Fries S. V. [368], Syll. II [481], Wt. II [112], Syn: Sphaeria coccinea Pers., Fries S. M. II [412], Fl. D. tab. 2100 fig. 2, Sph. decolorans Schum. no 1310, Højrød Støvkugle (H. 37 [862]), Skarlagen-Sporekugle (R 69 [74]). Lit: R 80 a [119].

It is very difficult to state for certain whether Nectria coccinea and Nectria ditissima are two separate species or if they ought to be united. Tulasne and all later mycologists have called the fungus, causing cancer, Nectria ditissima and applied the name Nectria coccinea to a fungus which may occur on undamaged bark. Any morphological distinction between these two species has never been proved, and Höhnel and Weese consider it most correct to unite them completely. See also Brefeld (vol. X [173]).

Alnus glutinosa. J. Dvergetved (M. L. M.). *Fagus silvatica.* F. Brændeskov, Klingstrup; S. Bagnæs Skov; L. Vesterborg. *Tilia europaea.* S. Brede. *Acer negundo.* F. Skaarup. *Cytisus laburnum.* S. Charlottenlund. *Sambucus niger.* S. Fredriksdal (O. R.), Dyrehaven (Toussieng).

667. **Nectria sanguinea** Fries S. V. [388], Syll. II [493], Wt. II [117], Syn: Sphaeria sang. Sibt., Fries S. M. II [453], Blodfarvet Støvkugle (H. 37 [865]).

Fagus silvatica. F. Klingstrup, Skaarup; S. Charlottenlund (V. Sarauw), København (Feddersen & Didrichsen). *Ulmus montana.* S. Fredrikslund (O. R.).

668. **Nectria punicea** Fries S. V. [487], Syll. II [480], Wt. II [112], Syn: Sphaeria punicea Kze. & Schum., Fries S. M. II [415].

Quite common on branches of *Frangula alnus,* noticed from J. Silkeborg!; S. Lyngby Mose!; B. Almindingen (Exc. 15/5 1911).

669. **Nectria vulgaris** Speg., Syll. II [483].

On branches of *Cecropia palmata* in the Botanical Garden (2/8 05 V. A. P.).

670. **Nectria brassicae** Ell. & Sacc., Syll. II [491], Wt. II [119], R 02 a [499].

On dead stems of *Brassica oleracea* common, for instance: J. Viborg!; S. København (Børgesen Dec. 88 see R 89 i [235]).

671. **Nectria solani** Reinke, Syll. II [511], Wt. II [126], R 02 a [499].

Not uncommon on decaying tubers of *Solanum tuberosum.*

672. **Nectria inaurata** Berk. & Br., Wt. II [117], Schroeter 08 [259], Syn: Aponectria in. Syll. II [516].

Crataegus oxyacantha. S. Dyrehaven (25/11 73 Didrichsen).

Gibberella.

Generally a form-species of Fusarium seems quite regularly to belong to every single species of Gibberella, for instance:

Gibberella	Saubinetii	corresp.	Fusarium	rostratum (see Appel & Wollenweber).
—	cyanogena	—	—	herbarum (see Bref. 91 [180]).
—	baccata	—	—	microsporium (see Wt. II [100]).
—	pulicaris	—	—	pyrochroum (see Tul. Carp. III [63]).

673. **Gibberella cyanogena** (Desm.) Sacc., Syll. II [555], Wt. II [102].
On dead stems of *Brassica oleracea*. J. Viborg!, Nebsager (Dec. 91 O. R.).

674. **Giberella Saubinetii** (Mont.) Sacc., Syll. II [554], Wt. II [102].
Abies alba. F. Glorup. *Carex ampulacea* J. Raabjerg (O. R.). *Glyceria*. S. Utterslev Mose (O. R.). *Roripa armoracia*. S. Landbohøjskolens Have. *Robinia pseudacacia*. S. Fredriksdal (O. R.). *Campanula latifolia*. J. Flade (V. S.). *Lappa*. S. Ermelunden (O. R.).

675. **Gibberella pulicaris** (Fries) Sacc., Syll. II [552], Wt. II [100] c. icon., Syn: Sphaeria pul. Fries S. M. II [417].
On dead twigs of *Populus tremula*. F. Skaarup. *Pirus malus*. F. Brændeskov. *Sarothamnus scoparius*. J. Varde!. *Fraxinus excelsior*. F. Klingstrup; S. Charlottenlund ([10/10] 81 V. Sarauw), Vordingborg!. *Sambucus niger*. F. Klingstrup.

Barya.

676. **Barya lichenophila** F. & W. 09 [312] c. icon.
On decaying thallus of *Cladonia*. J. Borris (Aug. 07 F. & W.).

Sphaerostilbe.

The conidial fructification corresponding to the species of Sphaerostilbe is chiefly to be sought in the formgenus formerly called Stilbum now Stilbella, for instance it is almost certain that

Sphaerostilbe aurantiaca corresponds to Stilbella aurantiaca (see Tul. Carp. I)

other species of Sphaerostilbe correspond to related forms, for instance

Sphaerostilbe	coccophila	corresp. to	Microcera coccophila.
—	flammea	—	Atractium flammeum (see Tul.).
—	fusca	—	Pionnotes sanguinea (see Fuck.).

677. **Sphaerostilbe hyalina** Fuckel, Syll. II [513], Wt. II [129].
On an old stump. J. Tolne Skov ([25/8] 04 M. L. M.).

Polystigma.

678. **Polystigma fulvum** (Fries) de Cand., Syn: Dothidea f. Fries S. M. II [654], Polyst. ochraceum (Wahlenb.) Sacc., Syll. II [458], Wt. II [145], R 02 a [501], Guul Vorteplet (H. 37 [873]).
On living leaves of *Prunus padus*. J. Skive ([10/8] 98!).

679. **Polystigma rubrum** (Fries) de Cand., Syll. II [458], Wt. II [144] c. icon., R 02 a [500], Syn: Dothidea rub. Fries S. M. II [553], Xyloma rub. Pers., Schum. no 1353, Rod Vorteplet (H. 37 [873]). Lit: R 96 o [125].

Its conidial fructification is called Polystigmina rubra (Desm.) Sacc.
On leaves of *Prunus insititia*. S. Asnæs Skov. *Prunus spinosa* common, noticed from all parts of the country.

Selinia.

680. **Selinia pulchra** (Wt.) Sacc., Syll. II [457], Wt. II [137], Syn: Hypocreopsis pulchra Wt., Hansen 76 [298] c. fig.
On dung of *Bos* & *Oves*. J., S., Am. (E. C. H.).

Hypocrea.

681. **Hypocrea alutacea** (Fries) Ces. & de Not., Syll. II [530], Wt. II [142] c. icon., Syn: Sphaeria alut. Pers., Fries S. M. II [325], Schum. no 1343, Fl. D. fig. 1300, Allunfarvet Støvkugle (H. 37 [855]).
The corresponding conidial fructification is Verticillium globuligerum Sacc. (see Tul. Carp. I [62]).
On *Cudonia circinans* and other fungi. July—Octob. S. Tisvilde Hegn (Mrs. A. Rützou); B. Almindingen (R 89 i [235]).

682. **Hypocrea citrina** Fries S. V. [383], Syll. II [528], Wt. II [141], Syn: Sphaeria cit. Fries S. M. II [137].
On the ground in the forest. J. Silkeborg; S. Gurre (F. K. R.), Ruderhegn (O. R. see R 91 j, again $^{9}/_{10}$ 05 C. Ferdinandsen), Holte ($^{8}/_{8}$ 74 Didrichsen).

683. **Hypocrea fungicola** Karsten, Syll. II [528], Wt. II [141].
On *Polyporus betulinus*. S. Dyrehaven (O. R.), Hvalsølille Sø.

684. **Hypocrea gelatinosa** Fries S. V. [383], Syll. II [524], Wt. II [140], Syn: Sphaeria gelat. Tode, Fries S. M. II [336], Sphaeria luteo-umbrina Schum. no 1321, Sphaeria pallida Pers., Schum. no 1336, Fl. D. tab. 1782.
On wood of *Pinus*. S. København. *Quercus robur*. S. ($^{24}/_{1}$ 1799 Schum.), Fortunen (O. R.).

685. **Hypocrea rufa** Fries S. V. [383], Syll. II [520], Wt. II [138] c. icon., Syn: Sphaeria rufa Pers., Fries S. M. II [335], Fl. D. tab. 1781 fig. 2, Sph. scarlatina Schum. no 1338, Lit: R 02 a [509].
Its conidial form of fructification is Trichoderma viride Fries.
On wood of *Picea excelsa*. J. Silkeborg Nørreskov. *Alnus glutinosa*. J. Hals Sønderskov (F. K. R.), Rugtvedskov; S. Jonstrup Vang, Fredriksdal, Boserup (Exc. $^{2}/_{10}$ 87); L. Stensgaard. *Quercus robur*. J. Rindsholm. *Fagus silvatica*. F. Broholm; S. Geelskov. *Crataegus monogyna*. S. Herløv (V. Clausen).

Hypocreopsis.

686. **Hypocreopsis riccioidea** (Bolt.) Karsten, Syll. II [LXVIII & IX 480].
On dead twigs of *Corylus* and *Rubus*. F. Klingstrup Søskov ($^{31}/_{12}$ 1864).

Epichloë.

687. **Epichloë typhina** (Fries) Tulasne, Syll. II [578], Wt. II [145] c. icon., Syn: Dothidea typh. Fries S. M. II [553], Sphaeria typh. Pers., Schum. no 1301, Polystigma typh. de Cand., R 69 [69], Skedesvamp (R 69, 93 d [98], 02 a [501] c. icon.).

The mycelium of this fungus is perennial in the host-plant; P. Nielsen has divided a single infected tuft into many parts and all of them produced affected straws only. Its conidial fructification is called Sphacelia typhina Sacc., Syll. IV [666], Ldau IX [459]. Rostrup supposes that this species should be divided into more biological forms (R 96 o [124]).

Dactylis glomerata, common. *Bromus Benekeni* & *mollis*. *Festuca rubra*. F. Skaarup; S. Basnæs (F. K. R.); B. *Festuca duriuscula*. J. Viborg!. *Poa nemoralis*. J. Trelde (Jak. Lge); F. Ringe!; S. Jægerspris. *Poa trivialis*. J. Knivholt!, Rydhave!, Asmildkloster!, Trelde (Jak. Lge); F. Skaarup, Svenborg; S. Stigsnæs (Exc. $^{23}/_{6}$ 07); L. Nakskov. *Holcus lanatus*. J. Fredrikshavn!, Vilsted Mose!; F. Skaarup; S. Jægerspris (Gad), Roskilde (Thomsen). *Holcus mollis*. F. Skaarup. *Milium effusum*. J. Silkeborg, Addit Skov; S. Geelskov, Tølløse. *Calamagrostis arundinacea*. J. Fræer Purker (F. K. R.), Mosskov, Silkeborg. *Calamagrostis arenaria* × *epigejos*. F. Skaarup; Lang. Spodsbjerg; Falst. Herslebslund. *Agrostis canina*. S. Teglstruphegn. *Agrostis alba* & *vulgaris*. Not uncommon. *Brachypodium silvaticum*. Møen Klinteskov; B. Helligdommen (Neger 06). *Anthoxanthum odoratum*. F. Svenborg; L. Vejlø. *Phleum pratense*. Not uncommon. *Phleum Boehmeri*. S. Fredrikssund. *Triticum repens*. J. Trelde.

Cordyceps.

It is a general supposition, and not disproved, that the species of the present genus correspond to forms of Isaria; for instance:

Cordyceps	militaris	corresp. to	Isaria farinosa (= crassa, truncata etc.).
—	cinerea	—	—	eleutherarum.
—	sphingum	—	—	sphingum (see Tul. Carp. III [12]).
—	pistillariaeformis	—	—	lecaniicola (see Jaap 08 [50]).
—	sphecophila	—	—	sphecophila (see R 93 b [91]).

A few species correspond to forms of Botrytis for instance:

Cordyceps	melolonthae	corresp. to	Botrytis tenella (Ldau VIII [277]).
—	sp.	—	muscae (R 93 b [95]).

688. **Cordyceps cinerea** (Tul.) Sacc., Syll. II [570], Wt. II [149].

Carabus nemoralis & *hortensis*. S. Ruderhegn (Exc. $^{2}/_{10}$ 99), Fredriksberg Have (Ravn see Vahl 1793 [50]), Karise (V. Christiansen), Karrebæk (O. R.); L.

Stensgaard (Aug. 73 again July 98 see R 93 b [91]). *Procrustes coriaceus.* S. Hvalsø Storskov (C. Jensen).

689. **Cordyceps militaris** (Fries) Link, Syll. II [572], Wt. II [150] c. icon., Syn: Sphaeria mil. Pers., Fries S. M. II [323], Schum. no 1342, Clavaria mil. L., Holmskjold 90 [42] tab. XV, Fl. D. tab. 657 fig. 1, Müller 70 b & 76 [256], Strids-Kølledrager (Viborg 93 [269]), Stridskøllen (Holmskj. 81), Puppesvamp (R 69 [69]).

It is common on insects both on caterpillars and nymphs mostly in the moist soil of forests or among moss in autumn. It early roused the attention of the mycologists, thus Holmskjold studied it very closely trying to feed dogs and chickens on it while O. F. Müller studied its spore-spreading (75 [156]). Rostrup proves (93 b [89]) that the larger the insects are the larger the fructification of the fungus will be; it occurs especially on Gastropachidae.

J. Sæby (O. R.), Hammermølleskoven (1862 P. Hejberg), Grevens Rolighed near Aarhus (Aug. 1764 Holmskj. 90), Borris Hede (F. & W. 08), Almind (Jak. Lge); F. Rygaard, Skaarup; S. Gilleleje (E. W.), Dyrehaven (Rützou & Kay Petersen), Dronninggaard (see Müller 67 [226] & 75 [160]), Fredriksdal (Müller 75 [156] & R 92 i), Aasevang (Exc. [19]/10 84), Fredriksberg Have (Vahl 93 [48]), Boserup (Thomsen), Filosofgangen by Sorø (1762 see Holmskj. 90), Herlufsholm (O. R.); L. Stensgaard, Rosningen; Møen Klinteskoven (Exc. [2]/8 73 again Aug. 91 V. A. P.).

690. **Cordyceps sphingum** (Tul.) Sacc., Syll. II [572], Wt. II [150], R 93 b [90].

On *Sphinx* sp. J. Grenaa (Gudman); F. Faaborg (C. Larsen); S. Hareskov (C. Larsen), Køge Aas (Toussieng), Herlufsholm (81 O. R.); B. Sorte Gryde near Rø (Mandrup Poulsen).

691. **Cordyceps ophioglossoides** (Fries) Link, Syll. II [574], Wt. II [151] c. icon., Syn: Sphaeria oph. Ehrh., Fries S. M. II [324], Fungus oph. Kylling 1688 [51], Cordyceps parasitica (Willd.), R 02 a [442], Slangeformet Køllesvamp (Müller 75), Slangetunget Støvkugle (H. 37 [855]), Lit: R 94 f [46].

On *Elaphomyces granulatus.* J. Viborg (! Exs. Jaap no 466), Stendalsgaards Plantage!; S. Hornbæk Plantage (Rützou & O. R. see R 95 a [208]), Teglstrup Hegn (Exc. [24]/9 05), Birkerød (Henrik Gerner see Kylling), Jægersborg Dyrehave (Johan Lge), Køge Aas (Exc. [4]/10 08), Karise (see Kylling), Slagelse Skov (Sev. P.).

692. **Cordyceps capitata** (Fries) Link, Syll. II [574], Wt. II [151] c. icon., Syn: Sphaeria cap. Fries S. M. II [324], Clavaria cap. Holmskjold 90 [38] tab. XIV, Fungus sp. Oederi, Fl. D. tab. 540, Sphaeria calchariae Oederi Weig., Øders Frøekugle (Viborg 93 [273]), Den knapdannede Køllesvamp (Holmskj.), Hovedformig Støvkugle (H. 37 [854]).

On *Elaphomyces granulatus*. J. Havreballe Kratskov near Aarhus (1762 Holmskj.); S. Jægersborg Hegn near Taarbæk (Oeder).

Claviceps.

693. **Claviceps nigricans** Tulasne, Syll. II [565], Wt. II [147].

Its sclerotium is called Sclerotium eleocharidis Thümen Myc. no 2298 = Scler. nigricans Sacc., Syll. IX [661].

Scirpus multicaulis. J. Karlsmærkshede (Th. Holm); Fanø (Johan Lge); S. Botanisk Have (Becker). *Scirpus paluster*. J. Hulsig (F. K. R.), Hirtshals, Skive (P. N.), Ranum (Jeppesen), Ved Sø, Gjødstrup Sø, Lyng Sø, Kalø, Hampen Sø; Fænø; F. Klingstrup (Exs. Thümen myc. no 2298), Vejstrupgaard; S. Ørsløv (P. N.); L. Stensgaard ([7]/[8] 70), Lindet. *Scirpus uniglumis*. J. Ranum (Jeppesen).

694. **Claviceps purpurea** (Fries) Tulasne, Syll. II [564], Wt. II [146], Syn: Sphaeria purp. Fries S. M. II [325], Fl. D. tab. 1781, Sphaeria entomorhiza Schum. no 1341, not Dicks., Moderkorn (Fabricius 1774), Hornrug, Rugdrenge, Drog, Meldrøjer (R 69 [69], 71 [45], 75 [20]), Sorte Drenge, Slemme Drenge, Giftrug, Ruggift, Brødgift, Sorte Rugkorn, Sekelkornut, Sekelkorn (Jenssen-Tusch 67 [343]), Lit: Lange 57 [63], la Cour 63 [263] & 67, R 93 d c. icon., 94 e c. icon., 02 a [503] c. icon., Engelke 02 b, Aderhold 06.

The numerous names applied to Sclerotium clavus by the common people bear witness to its great distribution. It has also roused the attention of the agriculturists, and has been mentioned by our earliest phytopathologists Fabricius (1774) and Troyel (1791 [43]); the latter sowed rye-grain mixed with sclerotia observing that the Secale produced was severely affected by Claviceps in the heads and that the sclerotia produced in this way were uncommonly large. The same observation was also made by Rostrup. No doubt it is owing to the fact that sclerotia produced by infection by ascospores grow bigger than sclerotia originated from infection by conidia. There are many accounts of Ergotinismus being formerly a wellknown disease in Denmark when the sclerotia were not so well cleansed from the rye as is now the case; Ørsted (1839 [77]) even writes that it might cause the limbs to drop from the patients. In 1862—63 many people were suffering severely from this disease (see P. N. 74 a [267], see also Abildgaard 1791 [54]). In the years 1761 and 1879 the rye was very severely affected as also in 1888, 92, 94 & 07; as a rule the rye is more attacked in Jutland — where it also rains more frequently — than in Seeland (see F. K. R. 09).

The ascigerous stage of the present fungus was first described by Schumacher who was mistaken in believing it to be Sphaeria ento-

morhiza Dicks. (see R 93 b [8]). Shortly after the discovery by Tulasne of the relation of Claviceps to Sclerotium clavus Rostrup confirmed his observations by numerous cultivating experiments (see R 66 [216]). Several recent mycologists are studying its biology. By this it has been proved that this name comprises many biologically different species (see Stäger 03 & 05).

The sclerotia of Secale cereale is a most valuable drug and is sold under the name of "Secale cornutum". It is very common and the sclerotia are found in the heads of most of the Danish species of Gramineae; it is, however, not equally common in all.

Dactylis glomerata, Bromus Benekeni, serotinus, erectus, secalinus, vestitus, Festuca ovina & var. duriuscula, rubra, distans, arundinacea (see R 81 a [91]), *pratensis, gigantea, Holcus mollis & lanatus, Avena pratensis & elatior, Trisetum flavescens, Melica altissima, Milium effusum* (see Stäger 05), *Brachypodium silvaticum, Phalaris arundinacea, Anthoxanthum odoratum, Hordeum sativum, europaeum, murinum, arenarium, nudum, Triticum sativum, monococcum, junceum × repens, repens, caninum, Secale cereale, Lolium perenne, multiflorum, remotum, temulentum.*

695. **Claviceps microcephala** (Wallr.) Tulasne, Syll. II [565], Wt. II [147], R 02 a [509].

The distinction between this species and the abovementioned one is very difficult and must first be proved by means of cultural experiments of which not many have hitherto been made (see especially Stäger 03). Rostrup states that Calamagrostis arenaria × epigejos which on account of its hybrid nature does not produce seeds will do so when attacked by this fungus (05 b [311]).

Poa pratensis & palustris (see R 99 c [126]), *Arundo phragmites* (see R 97 m [47]) *Molinia coerulea, Aira flexuosa, Calamagrostis arundinacea, epigejos, arenaria × epigejos, arenaria, Agrostis alba, Alopecurus agrestis, geniculatus, pratensis, Phleum pratense, Nardus strictus.*

696. **Claviceps Willsonii** Cke., Syll. IX [998], Lit: R 66 [217].

Very common in the heads of *Glyceria fluitans & plicata.*

Dothideales.

Most species of Dothideales attack the living part of the host in summer, but the ripe asci and spores do not occur on the dead plants until the following spring. A number of the species produce lower forms of fructification of almost the same outer appearance as the ascigerous stage; and the greater part of them belong to the connected formgenera Dothiorella, Rabenhorstia and Placosphaeria.

Some species of Dothiora produce conidial fructification of the type of Sphaeronema. Moreover Phyllachora and Scirrhia possess a third form of fructification called Hadrotrichum. Cultivating experiments have only been made with one species (Dothidella noxia). As to all other species we can only base our knowledge on suppositions and on the gradual appearance of the different stages on the same host. The numerous analogical cases, however, support the probability of our suppositions.

Scirrhia rimosa	— Placosphaeria dothideoides	— Hadrotrichum phragmitis.	
Phyllachora graminis	—	— graminis	— Hadrotrichum virescens.
— poae	—		— Hadrotrichum viresc. var. poae.
— cynodontis	—	— cynodontis.	
— junci	—	— junci.	
Diachora onobrychidis	—	— onobrychidis (see Müller 93 c. icon.).	
Mazzantia galii	—	— galii (see Wt. II [913]).	
— sepium	—	— sepium (see Syll. II [592]).	
Dothidella thoracella	—	— sedi.	
— stellariae	—	— stellariae (see Lind 05).	
— ambiens	—	— cerastii.	
— ulmi	— Piggotia astroidea (see Wt. II [904] & Bäumler).		
— betulina	— Gloeosporium betulae.		
— noxia	— Fusicoccum noxium (see Ruhland 04).		
Dothiora salicis	— Rabenhorstia salicis (see Vleugel 08 b [374]).		
— sphaeroides	— Sphaeronema Fuckelianum (sec. Fuckel). & Dothiorella populina (sec. Karst.).		
— pyrenophora	— Sphaeronema sorbi.		
— mutila	—	— microscopica.	
— rhamni	—	— rhamni.	
— xylostei	—	— lonicerae (sec. Fuckel).	
Dothidea ribesia	— Rabenhorsia ribesia (see All. VI [534]).		

Dothideaceae.

Dothidea.

697. **Dothidea virgultorum** (Fries) Fuckel, Wt. II [911], Syn: Sphaeria virg. Fries S. M. II [351], Plowrightia virg. Sacc., Syll. II [636].

On living twigs of *Betula pubescens* S. Holte ([30]/8 08 Boas).

698. **Dothidea berberidis** (Wahlenb.) de Not., Wt. II [909], Syn: Plowrightia berb. Sacc., Syll. II [637], R 02 a [512].

On twigs of *Berberis lycium*. S. Forsthaven by Charlottenlund.

699. **Dothidea ribesia** Fries S. V. [386], Wt. II [910] c. icon., Syn: Sphaeria rib. Pers., Fries S. M. II [550], Schum. no 1319, Plowrightia rib. Sacc., Syll. II [635], R 02 a [512], Plowr. irregularis (Otth.) Sacc., Syll. XIV [680], Sphaeria cohaerens Fl. D. tab. 2155 fig. 1, not Pers., Ribsens Vorteplet (H. 37 [872]).

I have found in Schumacher's herbarium a very curious form, outwardly quite as Dothidea ribesia, the asci, however, are 16-spored and the ascospores are 4-loculated and brown (see tab. II figg. 25—26). Tulasne has delineated spores of the same form in Carp. II [66] tab. IX.

Quite common on old branches of Ribes, all the year round. *Ribes rubrum*. J. Lerbæk!, Knivholt!, Dalum (Jak. Lge), Skaarup; S. København; L. Stensgaard. *Ribes nigrum*. J. Viborg!. *Ribes grossularia*. J. Knivholt!.

700. **Dothidea sambuci** Fries S. V. [386], Syll. II [639], Wt. II [908], Syn: Sphaeria samb., Pers., Fries S. M. II [551], Schum. no 1314, Sph. tenacella Fries S. M. II [492], Dothidea forniculata Otth., Syll. XIV [680].

On dead branches of *Sambucus nigra*, ripe asci and spores are found in March. J. Horsens!; F. Klingstrup, Skaarup; S. Frederiksdal (O. R.), Dyrehaven (Rützou), Ordrup Mose (O. R.), Charlottenlund.

Dothiora.

The genus Dothiora was formerly classified under Pseudophacidieae but according to v. Høhnel (06 a [667]) it belongs to Dothideaceae.

701. **Dothiora pyrenophora** Fries S. V. [418], Syn: Dothidea pyr. Fries S. M. II [552], Dothiora sorbi (Wahlenb.) Fuckel, Syll. VIII [766], Rehm III [110] & [1250].

On dead twigs of *Sorbus aucuparia*, often associated with its presumed pycnidial stage Sphaeronema sorbi Sacc., not uncommon, noticed from. J. Krabbesholm Skov!; S. Eskemose (O. R.), Geelskov (O. R.).

Scirrhia.

702. **Scirrhia agrostidis** (Fuck.) Wt. II [907], Syn: Dothidella agr. Sacc., Syll. II [628].

On leaves of *Agrostis alba*. F. Klingstrup; S. Lyngby!, Boserup (Thomsen).

703. **Scirrhia rimosa** (Fries) Fuckel, Syll. II [634], Wt. II [906], R 02 a [512], Syn: Sphaeria rim. Alb. & Schw., Fries S. M. II [427],

On leaves and sheaths of *Arundo phragmites*, common.

Rhopographus.

704. **Rhopographus filicinus** (Fries) Nke., Syll. II [648], Syn: Sphae-

ria fil. Fries S. M. II [427], Rhopographus pteridis (Sow.) Wt. II [915], Hysterium aquilinum Schum. no 1257, Fl. D. tab. 2330 fig. 2, Leptostroma filicinum Fries S. M. II [599] (unripe perithecia), Syll. III [645], All. VII [358], Bregnens Støvkugle (H. 37 [863]).

On dead *Pteridium aquilinum*, common. *Osmunda regalis*. Læsø (Jac. Hartz); F. Holstenshus; Lang. Hov; L. Stokkemarke (Exc. 2/8 84).

Phyllachora.

A great many species of fungi which belong to different places of the system were formerly — and are still — by many authors classed under the genus of Phyllachora (see the alphabetical index).

705. **Phyllachora junci** (Fries) Fuckel, Syll. II [605], Wt. II [900], Syn: Sphaeria junci Fries S. M. II [428], Siv-Skorpesvamp (R 04 a [193]).

Juncus maritimus. S. Lille Vrøj. *Juncus conglomeratus*. F. Klingstrup; S. Boserup (Thomsen). *Juncus effusus* very common. *Juncus glaucus*. J. Skive!; Thorseng Vindeby; L. Søbyholm. *Juncus filiformis*. J. Rødding!, Nip Gaard. *Juncus compressus*. L. Aunede Fjord.

706. **Phyllachora graminis** (Fries) Fuckel, Syll. II [602] & IX [1026], Wt. II [898], R 96 o [123] & 02 a [510], Græs-Skorpesvamp (R 93 d [99]), Græssernes Skorpesvamp (R 04 a [193]).

Very common on living and dead leaves of Gramineae, noticed on: *Dactylis glomerata, Bromus ramosus* & *Benekeni* ("Phyllachora bromi Fuckel"), *Festuca ovina, duriuscula, rubra, Aira flexuosa, Melica nutans, Calamagrostis lanceolata, Agrostis vulgaris, Brachypodium silvaticum, Hordeum silvaticum, Triticum caninum, repens, junceum* × *repens*.

707. **Phyllachora poae** (Fuckel) Sacc., Syll. II [603], Wt. II [900].

On dead leaves of *Poa pratensis* & *nemoralis*.

Phyllachora pomigena (Schwein.) Sacc., Syll. II [622], Æblets Skorpesvamp (R 02 a [511]).

On apples, surely not an autonomous species, there can be little doubt that it is the wintering stage (Microsclerotia) of Fusicladium pomi.

Dothidella (incl. *Munkiella*).

708. **Dothidella betulina** (Fries) Sacc., Syll. II [628], Wt. II [903], Syn: Dothidea bet. Fries S. M. II [554], Xyloma bet. Fries Obs., Phyllachora bet. Fuckel, R 80 a [142], Birkens Vorteplet (H. 37 [873]), Lit: R 02 a [512].

On dead leaves of *Betula verrucosa*. J. Ribberholt!, S. Hornbæk, Tisvilde, Gribskov (O. R.); B. Almindingen.

709. **Dothidella ulmi** (Fries) Wt. II [904], R 02 a [512], Syn: Dothidea ulmi Duv., Fries S. M. II [555], Phyllachora ulmi Fuckel, Syll. II [594].

On dead leaves of *Ulmus campestris*. S. Forsthaven; L. Knuthenborg; B. Svaneke.

710. **Dothidella stellariae** (Lib.) Lind 05, Syn: Dothidea st. Libert, Phyllachora st. Schroeter, R 04 a [193], Euryachora st. Fuckel, Syll. II [625], Wt. II [918], Fladstjerne-Skorpesvamp (R 04 a).

On dead stems and leaves of *Stellaria holostea*, ripe asci and spores are found in March—April. J. Hald!; F. Klingstrup; B. Hammershus (Neger 06), Almindingen (R 06 dd).

711. **Dothidella thoracella** (Fries) Sacc., Syll. II [630], Wt. II [905], R 02 a [512], Syn: Sphaeria thor. Rutstroem, Fries S. M. II [602], Euryachora sedi Fuckel.

On dead leaves and stems of *Sedum maximum* & *purpureum* common.

712. **Dothidella geranii** (Fries) Rehm, Syn: Sphaeria ger. Fries S. M. II [558], Stigmatea ger. Fries S. V. [421], Stigmatea confertissima Fuckel, Syll. I [542], Venturia conf. Magn. 91 [61], Euryachora geranii Schroeter 08 [474]. See tab. II figg. 27—28.

This species which seems to be confined to Geranium silvaticum, and which is best known under the name of Stigmatea confertissima Fuckel is, in fact, the same as that described by Fries (S. M. II [558]) as Dothidea geranii; in an earlier description (1823 [36]) in which he calls it Sphaeria geranii he expressly mentions Geranium silvaticum as the host-plant. Its place within the system has been disputed; as, however, both Rehm and Schroeter agree in classing it under Dothideales I shall not object even though the stroma, in my opinion, is no true Dothideacee-stroma.

It is quite wrong to unite it with the species described and delineated by Oudemans (73 [317] tab. XVI fig. 8) on Geranium dissectum and by Winter (II [434]) on Geranium pusillum & molle under the name of Venturia geranii Wt. (see Magnus 91).

Hypophyllus on living leaves of *Geranium silvaticum*. J. Brædstrup; B. Almindingen ([28]/7 78 L. K. R.).

Sphaeriales.

Chaetomiaceae.

Chaetomium.

713. **Chaetomium chartarum** Fries S. M. III [255], Syll. I [223], Wt. II [157] c. icon., Syn: Myxotrichum chart. Fries, S. M. III [349], Dematium olivaceum Schum. no 2170.

On paper. S. København.

714. **Chaetomium comatum** Fries S. V. [405], Syll. I [221], Syn: Sphaeria com. Tode, Fries S. M. II [504], Chaetomium elatum Fries S. M. III [254], Lit: R 02 a [482].

On moist straw, paper, dung of mammals (Hansen 76 [340]), moist seeds etc. All the year round.

715. **Chaetomium fimeti** Fuckel, Wt. II [159], Syn: Chaetomidium fimeti Zopf, Syll. I [39].

On old dung of *Lepus*. S. Næstved (Dec. 74 Hansen 76 [304]).

716. **Chaetomium murorum** Corda. Syll. I [223].

Very rare. On seeds and filtering paper in the seed inspecting office. November (O. R.), on fallen leaves of *Quercus*. May (O. R.).

717. **Chaetomium indicum** Corda. Syll. I [222].

Common in the seed inspecting office. All the year round (O. R.) also on fallen leaves in the forest (O. R.).

718. **Chaetomium Kunzeanum** Zopf, Syn: Chaet. Fieberi Cda., Syll. I [223].

Very common. All the year round on moist seeds etc. (O. R.) also on fallen leaves of *Quercus*. S. Geel Skov (O. R.).

719. **Chaetomium macrosporum.** Sacc. & Penzig, Syll. IX [484].

Very common in the seed inspecting office (O. R.).

720. **Chaetomium bostrychodes** Zopf, Syll. I [224].

Rare. May. On seeds in the seed inspecting office (O. R.), on fallen leaves of *Fagus, Quercus, Picea* & *Pinus* etc. S. Geel Skov (O. R.).

721. **Chaetomium crispatum** Fuckel, Syll. I [224].

June. Rare. On seeds in the seed inspecting office (O. R.).

Sordaria.

722. **Sordaria anserina** (Rabh.) Wt. II [173], Syll. I [238].

On dung of *Anas* etc. (Hansen 76 [342] c. icon.).

723. **Sordaria coprophila** (Fries) Ces. & de Not., Syll. I [230], Syn: Podospora cop. Wt. II [172], Sphaeria cop. Fries S. M. II [342].

On dung of *Bos*. J. Ribe, F. Skaarup; S. Holte, Charlottenlund, Roskilde etc. (see Hansen 76 [336]).

724. **Sordaria curvula** de By., Syll. I [233], Syn: Podospora curv. Wt. II [174].

On dung of *Bos*. J. Sparkær!; S. (Hansen 76 [340]).

725. **Sordaria decipiens** Wt., Syll. I [235], Syn: Podospora dec. Wt. II [173].

See Hansen 76 [341] c. icon.

726. **Sordaria dubia** Hansen 76 [337] c. icon.
On old dung of *Equus* and *Oves*. J. Borris Hede (F. & W. 08), Ribe (Nov. 74 Hansen).

727. **Sordaria fimiseda** Ces. & de Not., Syll. I [232], Syn: Podospora fim. Wt. II [170].
On old dung of *Equus*. S. Charlottenlund (Octob. 74 Hansen 76 [336]).

728. **Sordaria hirta** Hansen 76 [336] c. icon., Syll. I [232].
On dung of *Bos*. J. Ribe (Octob. 74 E. C. H.).

729. **Sordaria minuta** Fuckel, Syll. I [231], Syn: Podospora min. Wt. II [174].
On dung of *Mus, Cervus, Lepus* etc. S. København, Holsteinborg (Hansen 76 [338]).

730. **Sordaria neglecta** Hansen 76 [335] c. icon., Syll. I [232].
On old dung of *Bos* and *Equus*. J. Ribe (Aug. 74); S. Holte (E. C. H.).

731. **Sordaria plejospora** Wt. II [175], Syn: Philocopra plej. Sacc., Syll. I [249].
On old dung of *Bos* and *Lepus*. S. Holte (Septbr. 74), København (E. C. H.).

732. **Sordaria similis** Hansen 76 [336] c. icon., Syn: Philocopra similis Sacc., Syll. I [251].
On old dung of *Oves*. S. Rudersdal (June 74 E. C. H.).

Hypocopra.

733. **Hypocopra barbata** (Hansen) Sacc., Syll. I [243], Syn: Sordaria barb. Hansen 76 [334].
On old dung of *Oves*. S. Rudersdal (June 74 E. C. H.).

734. **Hypocopra discospora** (Awd.) Fuckel, Syll. I [240], Syn: Sordaria disc. Niessl, Wt. II [167].
On dung of *Equus, Bos, Oves*. J. Borris Hede (F. & W. 08), Ribe; S. Rudersdal & Dyrehaven (Hansen 76 [334]).

735. **Hypocopra fimicola** (Rob.) Sacc., Syll. I [240], Syn: Sordaria fim. Ces. & de Not., Wt. II [166] c. icon.
On dung of *Equus, Oves, Lepus, Canis, Phoca, Mustela, Felis domest.* etc. very common (Hansen 76 [333] & O. Paulsen 98 [283]). Its spores are observed in the air (O. R. 08 [39]).

736. **Hypocopra humana** Fuckel, Syll. I [240], Syn: Sordaria hum. Wt. II [166].
On human excrement and dung of *Canis*. J. Ribe; S. Charlottenlund (see Hansen 76).

737. **Hypocopra insignis** (Hansen) Sacc., Syll. I [243], Syn: Sordaria ins. Hansen 76 [334].
On dung of *Equus*. S. Holte (Sept. 74 E. C. H.).

738. **Hypocopra equorum** (Fuck.) Wt. II [178], Syn: Coprolepa eq. Fuck. Syll. I [249].
On old dung of *Equus*. S. Charlottenlund, Ringsted; Am. (see Hansen 76 [333]).

739. **Hypocopra fimeti** Fries S. V. [397], Wt. II [177], Syn: Coprolepa fim. Sacc., Syll. I [248], Sphaeria fimeti Pers., Fries S. M. II [373].
On dung. S. Roskilde ([11]/1 73 Thomsen).

740. **Hypocopra merdaria** Fries S. V. [397], Wt. II [178], Syn: Coprolepa merd. Fuckel, Syll. I [248], Sphaeria merd. Fries El. II [100].
On dung of *Oves, Anser, Anas* (see Hansen 76 [333]).

Delitschia.

741. **Delitschia Auerswaldii** Fuckel, Syll. I [732].
On dung of *Oves*. S. Rudersdal (June 74 see Hansen 76 [313]).

742. **Delitschia bisporula** (Crouan) Hansen 76 [313] c. icon., Syll. I [732], Wt. II [163] (the fig. only).
On dung of *Bos* & *Oves*. June–Sept. J. Hjortlund; S. Rudersdal (E. C. H.).

743. **Delitschia chaetomioides** Karsten, Syll. I [732].
On dung of *Oves*. S. Femsølyng (June 76. Hansen 76 [314]).

744. **Delitschia Winteri** Plowright, Syll. I [734].
On dung of *Oves*. S. Long-Mose (June 76 see Hansen 76 [314]).

Sporormia.

745. **Sporormia gigantea** Hansen 76 [319] c. icon., Syll. II [127], Wt. II [183], Berlese 94 [43] c. icon.
On old dung of *Oves*. S. Long-Mose (June 76 see Hansen 76 [319]).

746. **Sporormia intermedia** Awd., Syll. II [126], Wt. II [182].
On dung of *Equus, Bos, Oves, Lepus*, common (Hansen 76 [316] c. icon.).

747. **Sporormia lageniformis** Fuckel, Syll. II [125], Wt. II [182].
On old dung of *Equus*. Amager (Hansen 76 [318] c. icon.).

748. **Sporormia megalospora** Awd., Syll. II [126], Wt. II [183].
On old dung of *Bos*. J. Hjortlund (July 74 see Hansen 76 [318]).

749. **Sporormia minima** Awd., Syll. II [124], Wt. II [181].
On old dung of *Equus* and *Bos*, common (see Hansen 76 [318] c. icon. & O. Paulsen 98 [283]).

750. **Sporormia paseua** Niessl, Syll. II [130].
On dung of *Bos*. J. Ustrup Skov near Horsens ([26/4] 02!).

751. **Sporormia pulchella** Hansen 76 [320] c. icon., Syll. II [124], Wt. II [181], Berlese 94 [42].
On old dung of *Bos* and *Oves*. S. Charlottenlund, Long-Mose (E. C. H.).

752. **Sporormia pulchra** Hansen 76 [319] c. icon., Syll. II [131].
On old dung of *Bos* & *Oves*, April—August. J. Hjortlund; S. Ravnholt Skov.

Sphaeriaceae.

Most species of Sphaeriaceae produce a conidial fructification of the type of the dark-spored Hyphomycetes. Many of those lower fructifications are still without name or are unsatisfactorily investigated.

As the more well known examples are to be recorded:

Trichosphaeria sacchari	corresp.	Coniothyrium melaspora (see Massee 93).
Leptospora caudata	—	Fuckelina microspora (see Fuckel).
Chaetosphaeria fusca	—	Cladotrichum polysporum (Fuckel & Wt. II [219]).
Rosellinia aquila	—	Trichosporium fuscum.
— thelena	—	Stachylidium thelenum (Saccardo).
— clavariae	—	Scolicotrichum clavariarum (Tul. Carp. II [211]).
— conglobata	—	Haplosporella conglobata (Vleugel 08 b [382]).
Melanopsamma pomiformis	—	Fuckelina socia (Saccardo).
Melanomma pulvis pyrius	—	Helminthosporium velutinum (Sacc.).

Some species of Melanomma correspond to forms of Aposphaeria viz.:

Melanomma fuscidulum	corresp. to	Aposphaeria fuscidula.
— leptosphaerioides	—	— leptosphaerioides.
— pulviusculum	—	— pulviuscula.

Niesslia.

753. **Niesslia pusilla** (Fries) Schroeter 08 [294], Syn: Chaetomium pus. Fries S. M. III [255], Niesslia exilis Wt. II [195], Coelosphaeria ex. Sacc., Syll. I [92], Nitshkia ex. Fuckel, R 97 b [82].
On dead and fallen leaves of *Pinus montana* & *Picea excelsa*. J. Viborg; F. Skaarup ([19/5] 78).

Coleroa.

754. **Coleroa alchimillae** (Fries) Wt. II [199], Syn: Asteroma alch. Grév., Fries El. II [152], Venturia alch. B. & Br., Syll. I [593].

Epiphyllous, July—Octob., *Alchimilla vulgaris*. F. Dalum (Jak. Lge), Vejstrup Aaskov, Skaarup (July 62); L. Stensgaard. *Alchimilla montana*. J. Krabbesholm Skov!; F. Ringe!.

755. **Coleroa chaetomium** (Fries) Rabenh., Wt. II [198], R 02 a [482], Syn: Sphaeria chaet. Kze., Fries S. M. II [563], Venturia Kunzei Sacc., Syll. I [588].

Parasitical on living leaves of *Rubus caesius* & *idaeus*, August—October, quite common.

756. **Coleroa potentillae** (Fries) Wt. II [199], Syn: Dothidea pot. Fries S. M. II [563], Venturia pot. Cooke, Syll. I [594] & IX [692], Coleroa subtilis (Fuckel) Wt. II [200] (see Vgr. 99 [156]), Venturia subt. Sacc., Syll. I [594].

Epiphyllous on living leaves of *Argentina anserina*. F. Vængemose, Skaarup ([26]/9 78); S. Flaskekroen. *Potentilla reptans*. L. Saxkøbing. *Comarum palustre*. J. Viborg!.

Trichosphaeria.

757. **Trichosphaeria minima** (Fuckel) Wt. II [204], Syn: Wallrothiella min. Sacc., Syll. I [455].

Alnus glutinosa. S. Aasevang (May 91 O. R.).

758. **Trichosphaeria alligata** (Fries)!, Syn: Sphaeria all. Fries S. M. II [445], Eriosphaeria all. Sacc., Syll. I [599].

On bark of *Populus*. L. Stensgaard (August 65). *Fagus silvatica*. S. Fredriksdal.

Leptospora.

759. **Leptospora ovina** (Fries) Fuckel, Wt. II [215], Syn: Sphaeria ovina Pers., Fries S. M. II [446], Sphaeria alba Schum. no 1266, Sphaeria atrostoma Schum. no 1265, Fl. D. tab. 2333 fig. 2, Sphaeria ovina β glabrata Fries, Fl. D. tab. 2333 fig. 1, Lasiosphaeria ovina Ces. & de Not. Syll. II [199], Uldet Støvkugle (H. 37 [864]), Uld-Sporekugle (R 69 [73]).

Quite common on old stumps. Lang. Tranekær; S. Dronninggaard (O. R.), Holte (Didrichsen), Geelskov, Dyrehaven (O. R.); L. Stensgaard.

760. **Leptospora crinita** (Fries) Fuckel, Wt. II [218], Syn: Sphaeria crin. Pers., Fries S. M. II [450], Lasiosphaeria crin. Sacc., Syll. II [201], Langhaaret Støvkugle (H. 37 [865]).

On old wood. F. Skaarup; S. Dyrehaven; L. Stensgaard (Aug. 65).

761. **Leptospora spermoides** (Fries) Fuckel, Wt. II [214], Syn: Sphaeria sperm. Hoffm., Fries S. M. II [457], Lasiosphaeria sperm. Ces. & de Not., Syll. II [198], Frødannet Støvkugle (H. 37 [865]), Hagel-Sporekugle (R 69 [73]).

Quite common on old stumps of *Fagus silvatica* etc. J. Lerbæk!; F. Vejstrup (April 66), Skaarup; S. Ruderhegn, Holte (Didrichsen), Fredriksdal.

762. **Leptospora caneseens** (Fries) Wt. II [216], Syn: Sphaeria can. Pers., Fries S. M. II [448], Lasiosphaeria can. Karsten, Syll. II [193].

On twigs and wood of *Fagus silvatica*. S. Gribskov (O. R.), Jydstrup (Rützou); Møens Klinteskov.

763. **Leptospora caudata** Fuckel, Wt. II [217], Syn: Lasiosphaeria caud. Sacc., Syll. II [200].

According to Fuckel, its conidial stage is Fuckelina microspora Sacc.

On old wood of *Quercus*. J. Viborg ([21]/8 06!).

Lasiosphaeria.

764. **Lasiosphaeria rhacodium** (Fries) Ces. & de Not., Syll. II [194], Wt. II [211], Sphaeria rhac. Pers., Fries S. M. II [449], Sphaeria hirsuta Schum. no 1290, Rynket Støvkugle (H. 37 [864]).

On rotten wood. F. Skaarup (Sept. 65).

765. **Lasiosphaeria hirsuta** (Fries) Ces. & de Not., Syll. II [191], Wt. II [210], Syn: Sphaeria hirs. Fries S. M. II [449], Sphaeria pubescens Schum. no 1298 (according to specimens in Schumachers herbarium).

On wood of *Fagus*. S. ([23]/9 1802 Schum.), Klampenborg ([21]/3 1911!).

766. **Lasiosphaeria hispida** (Fries) Fuckel, Syll. II [194], Wt. II [211], Syn: Sphaeria hisp. Tode, Fries S. M. II [450], Sphaeria crinita Schum. no 1267 (according to specimens in Schumachers herbarium), Fl. D. tab. 2334 fig 2.

Fuckel has regarded Sphaeronemella flavo-viridis as its conidial fructification.

On old wood of *Fagus* & *Corylus*. J. Lerbæk near Fredrikshavn!; S. Ermelunden (O. R.).

Chaetosphaeria.

767. **Chaetosphaeria phaeostroma** (Dur. & Mont.) Fuckel, Syll. II [93], Wt. II [218], Syn: Chaet. tristis (Tode) Schroeter 08 [308], Sphaeria trist. Tode, non. Pers. nec. Fries, Sphaeria trist. β fusca Fries S. M. II [444], Fløjels-Sporekugle (R 69 [73]).

On brittle wood of *Corylus* etc. F. Tangegaard, Skaarup (Febr. 62); S. Hammer!; L. Stensgaard.

Herpotrichia.

768. **Herpotrichia collapsa** (Romell) Hennings 98, Syn: Bertia col. Romell, Syll. IX [687]. Lit: Romell in Bot. Notiser 1889 [24], Rehm in Hedwigia 1903. See tab. III figg. 31 & 32.

It has an amply developed felt-like mycelium serving as a subiculum to the black, cupuliferous perithecia. The mycelium spreads on old wood and on the bare ground. Besides in Denmark it has only been found twice in Sweden, in Upsala (Romell) and in Stockholm (Hamberg).

S. Ruderhegn!, Øverrød ([28]/3 08!).

769. **Herpotrichia nigra** Hartig, Syll. IX [858], R 02 a [417].

Picea excelsa. S. Tokkekøb Hegn (O. R.).

770. **Herpotrichia parasitica** (Hartig) Rostrup 89 a [26], 90 a [222] c. icon., 02 a [446], Syn: Trichosphaeria par. Hartig, Acanthostigma par. Sacc., Syll. IX [855].

As it is furnished with two-celled spores and with paraphyses it ought to be classified as Herpotrichia. Its attacks are very destructive to trees at the age of from ten to twenty years when they are growing too densely (see R 02 a). Rostrup found it in this country in 1884 the same year as Hartig recorded it from Germany.

Noticed on *Abies alba* from J., F., S., Am., L., B. (Neger 06). *Abies Nordmanniana*. F. Glorup.

771. **Herpotrichia rubi** Fuckel, Syll. II [212], Schroet. 08 [309]. See tab. III figg. 29—30.

Peritheciis gregariis, superficialibus, fragilibus, globoso-ovatis, obtusis, subtiliter papillatis, ostiolo lato, superne glabris, atris, 2 mm diam., subiculo insidentibus. Hyphis subiculi longis, septatis, ramosis, fuscis, intricatis, 5—8 μ crassit. Ascis 85—105 μ × 12—15 μ; sporis uniseptatis, constrictis, 19—27 μ × 7—8 μ, hyalinis, utrinque appendice hyalina auctis; paraphysibus numerosis, filiformibus, hyalinis, 3—4 μ crassit, apice rotundatis.

Besides in Denmark this species seems to be known in Germany only.

Rubus idaeus. J. Knivholt (July 1904!).

Bertia.

772. **Bertia moriformis** (Fries) de Not., Syll. I [582], Wt. II [237], Syn: Sphaeria mor. Tode, Fries S. M. II [458], Schum. no 1288, Sphaeriae coarctatae affinis. Fl. D. tab. 1307 fig. 2. Morbærformig Stovkugle (H. 37 [866]).

Common on wood and branches of many trees, e. g. *Picea excelsa, Salix, Fagus, Corylus, Lonicera xylosteum* etc.

Bombardia.

773. **Bombardia fasciculata** Fries S. V. [389], Syll. I [277], Wt. II [235] c. icon., Syn: Sphaeria bombarda Fries S. M. II [456], ? Sphaeria spinosa Schum. no 1299 not Pers., Fl. D. tab. 1311 fig. 2.
On brittle wood, common, Aug.—November.

Rosellinia.

774. **Rosellinia Schumacheri** (Hansen) Sacc., Syll. I [276], Syn: Sphaerella Schum. Hansen 76 [311] c. icon.
On dung of *Lepus, Mus* etc. S. Basnæs (Febr.—March 75 E. C. H.).

775. **Rosellinia clavariae** (Tul.) Wt. II [230] c. icon., Syn: Helminthosphaeria clavariarum (Desm.) Fuckel, Syll. I [230].
Its conidial fructification is called Scolicotrichum clavariarum (Desm.) Sacc., Syll. IV [349], Ldau VIII [794].
Clavaria cristata. F. Skaarup ($^2/_{10}$ 82 Johanson). *Clavaria cinerea*. S. Sorgenfri (F. K. R.).

776. **Rosellinia obliquata** (Sommerf.), Ces. & de Not., Syll. I [260] & IX [501], Wt. II [225], ? Syn: Pleosporopsis strobilorum Ørsted 65 c. icon.
On fallen cones of *Pinus montana*. S. Forstbotanisk Have (Ørsted 1864).

777. **Rosellinia sordaria** (Fries) Rehm, Syll. I [270] & IX [501], Wt. II [228], Syn: Sphaeria sord. Fries S. M. II [458].
On wood of coniferae, found in interglacial deposits J. Ejstrup (see Hartz 09 [228]).

778. **Rosellinia malacotricha** (Awd.) Niessl, Syll. I [270].
On wood of *Pinus*. F. Trolleborg.

779. **Rosellinia thelena** (Fries) Rabenh., Syll. I [253], Wt. II [225], Syn: Sphaeria thel. Fries S. M. II [441].
On dead trunks and branches of *Pinus* & *Picea*. S. Asserbo ($^{23}/_9$ 91), Vemmetofte (Lyman).

780. **Rosellinia dispersella** (Nyl.) Karsten, Syll. I [268].
On wood of *Populus tremula*. F. Odense.

781. **Rosellinia velutina** Fuckel, Syll. I [272], Wt. II [232].
On brittle wood. S. Geelskov (Dec. 88 O. R.).

782. **Rosellinia medullaris** (Wallr.) Ces. & de Not., Syll. I [258].
On roots of *Alnus glutinosa*. F. Skaarup.

783. **Rosellinia ligniaria** (Grév.) Fuckel, Syll. I [269].

On wood of *Alnus*. S. Frederiksdal (F. & W. 09 [316]). *Fagus silvatica*. S. Tokkekøb Hegn (O. R.), Søllerød (O. R.), Boserup (Oct. 87 O. R.).

784. **Rosellinia mammiformis** (Fries) Ces. & de Not., Wt. II [226], Syn: Sphaeria mam. Pers., Fries S. M. II [455], Rosellinia mastoidea Sacc., Syll. I [258], Brystdannet Frøkugle (Viborg 93 [273]).

Quite common on branches and wood of many different species of deciduous trees, e. g. *Salix, Fagus, Quercus, Lonicera xylostium* (Exc. [13/6] 09) etc. Also found in interglacial deposits by Ejby (Hartz 09 [228]).

785. **Rosellinia aquila** (Fries) de Not., Syll. I [252], Wt. II [224], R 02 a [451], incl. var. byssiseda Fries, Syll. I [252] & IX [495], Syn: Sphaeria aquila Fries S. M. II [442], Sph. byssiseda Fries S. M. II [442], Sph. papillata Schum. no 1297 (according to specimen in Schumachers herbarium), Fries S. M. II [461].

Noticed on wood of *Picea excelsa, Pinus silvestris, Populus, Corylus, Fraxinus* from all parts of the country.

786. **Rosellinia pulveracea** (Fries) Fuckel, Syll. I [264], Wt. II [228], Syn: Sphaeria pulv. Fries S. M. II [459], Støvagtig Støvkugle (H. 37 [866]).

On branches of *Fagus silvatica*. S. Jægersborg (V. Sarauw), Sorø Sønderskov ([15/4] 81 V. Sarauw). *Calluna vulgaris*. J. Hald!.

787. **Rosellinia quercina** Hartig, Syll. IX [496].

It was first discovered in this country near Vejle (Winge) in 1882 on Quercus produced by acorns from Germany, while Quercus of Danish origin close by were not affected (see R 90 a [219], 96 q [121]). It has also, later on, caused much damage in nurseries to Quercus from German acorns. It may attack Quercus till these have reached the age of ten years. It has also caused damage to Fagus and Acer (see Müller 86 & R 89 a [25] c. icon., 90 a [221]).

On roots of *Quercus robur*. J. Friisenborg, Stauby Skov (Winge), S. Ulkerup (Kofoed see R 93 a); Falst. Korselitze and more other places. *Fagus silvatica*. J. Silkeborg Vesterskov, Thyrasbrønd (Wegge), S. Soro (R. Leth), Thureby!. *Myrica gale*. S. Asserbo Overdrev. *Acer pseudoplatanus*. S. Soro Akademi (R. Leth).

Lizonia.

788. **Lizonia emperigonia** (Awd.) de Not., Syll. I [574], Wt. II [332] c. icon.

Kirschstein (11 [289]) wants to transfer this species to the order of Cucurbitariaceae while, on the other hand, v. Höhnel (11 a [419]) classes it among Perisporiaceae.

Polytrichum commune. J. Rodding Sø near Viborg (! [5/5] 03 Exs. Vgr. no 920).

789. **Lizonia hypnorum** F. & W. 07 [254] c. icon.
On living leaves of *Stereodon cupressiforme*. J. Borris (F. & W.).

Melanopsamma.

790. **Melanopsamma pomiformis** (Fries) Sacc., Syll. I [575], Wt. II [238], Syn: Sphaeria pom. Fries S. M. II [455], Æbleformig Støvkugle (H. 37 [865]).
On the cut surface of branches of *Pirus malus*. L. Stensgaard (July 65).

Melanomma.

791. **Melanomma ovoideum** (Fries) Fuckel, Wt. II [244], Syn: Sphaeria ov. Fries S. M. II [459], Zignoella ov. Sacc., Syll. II [214], Sphaeria granum Schum. no 1284.
On brittle wood. J. Dronninggaard (June 91 O. R.).

792. **Melanomma pulvis pyrius** (Fries) Fuckel, Syll. II [98], Wt. II [240] c. icon., Syn: Sphaeria pulv. p. Fries S. M. II [458], R 80 a [128], Sph. pulvis Schum. no 1287, Sph. uda Schum. no 1295 (according to spec. in Schumacher's herb.), Krudt-Sporekugle (R 67 [74]).
Very common on corticated branches and decorticated wood of *Picea, Pinus, Populus, Betula, Alnus, Fagus, Ilex* etc. all the year round.

793. **Melanomma pulvisculum** (Curr.) Sacc., Wt. II [244], Syn: Zignoella pulviscula Sacc., Syll. II [214].
On dead branches and wood of *Alnus* & *Quercus*. S. Dyrehaven (V. Sarauw), Ermelunden (O. R.).

794. **Melanomma Aspegrenii** (Fries) Fuckel, Syll. II [100], Wt. II [241], Sphaeria Asp. Fries S. M. II [465], Fl. D. tab. 2334 fig. 3, Sph. globularis Schum. no 1273.
On wood of *Salix* and *Betula*. S. Skjoldnæsholm (Oct. 88).

795. **Melanomma papillatum** Fuckel, Wt. II [245], Syn: Zignoella pap. Sacc., Syll. II [219] & IX [860].
On wood of *Quercus*. S. Fredriksdal (Sept. 90 O. R.).

796. **Melanomma ovoideum** (Fries) Fuckel, Wt. II [244], Syn: Zignoella ov. Sacc., Syll. II [214].
On corticated and decorticated branches of *Fagus silvatica*. S. Dyrehaven (3/4 82 V. Sarauw). *Quercus robur*. J. Ørsløvkloster!. *Lonicera xylosteum*. Møens Klint (Exc. 12/6 09).

797. **Melanomma fuscidulum** Sacc., Syll. II [99].
Sambucus nigra. J. Nebsager (July 92 O. R.).

Ceratostomaceae.

Ceratostomella.

The species of Ceratostomella often corresponds to conidial fructifications of the formgenus Sphaeronema, viz:

Ceratostomella	subpilosa	corresp.	Sphaeronema	subpilosum (Fuckel).
—	procumbens	—	—	procumbens (Fuckel).
—	pilifera	—	—	piliferum (Saccardo).
—	multirostrata	—	—	Fuckelii (Saccardo).

798. **Ceratostomella pilifera** (Fries) Wt. II [252], Syn: Sphaeria pil. Fries S. M. II [472], Fl. D. tab. 2039 fig. 3, Ceratostomum pil. Fuckel, Syll. I [219], R 02 a [482], Sphaeria setosa Schum. no 1300, Haarnæbbet Sporekugle (R 69 [74]), Haarnæb (R 04 a [178]).

On wood of *Picea* & *Pinus* dyeing it bluish-gray. Quite common.

799. **Ceratostomella rostrata** (Fries) Sacc., Syll. I [408], Wt. II [249], Syn: Sphaeria rostrata Fries S. M. II [473], Schum. no 1269, Nebbet Støvkugle (H. 37 [867]).

On old wood of *Fagus* and *Quercus*. F. Skaarup; S. Dyrehaven (! & O. R.); L. Stensgaard.

800. **Ceratostomella cirrhosa** (Fries) Sacc., Syll. I [408], Wt. II [250], Syn: Sphaeria cir. Pers., Fries S. M. II [475].

On wood. S. Ermelunden (March 90 O. R.).

Cucurbitaceae.

The species of Cucurbitaceae often produce more different forms of conidial fructification belonging to the dark-spored Sphaerioideae. Otthia, Gibberidia and Cucurbitaria quite regularly produce Diplodia and Camarosporium besides the ascigerous stage. The life-cycle of Nitschkia and of Gibbera is, however, quite different, viz:

Nitschkia cupularis	corresp. to	Phoma Fuckelii (see Saccardo).
Gibbera vaccinii	—	Helminthosporium vaccinii (see Wt. II [313]).
Otthia populina	Diplodia	populina.
— corylina	—	coryli.
— quercus	—	quercus & Camarosporium quercus.
— pruni	—	pruni.

Otthia piri		Diplodia	pseudodiplodia.	
— rosae		—	rosarum.	
— spiraeae		—	spiraeina.	
— xylostei		—	lonicerae.	
Gibberidia visci		—	visci.	
Cucurbitaria salicina		—	salicina &	Camarosporium visci (see Fuckel).
—	juglandis	—	juglandis.	
—	ulmeae			Hendersonia ulmea.
—	naucosa	—	melaena	Camarosporium cruciatum (see Potebnia 07).
—	protracta	—	subtecta.	
—	acerina	—	acerina.	
—	rhamni	—	frangulae	Camarosporium rhamni.
—	elongata	—	profusa	— robiniae.
—	amorphae	—	amorphae	— amorphae.
—	caraganae	—		— caraganae (see K 90 [30]).
—	coluteae	—	coluteae.	
—	laburni	—	cytisi	— laburnicolum (see Tul.).
—	gleditschiae	—	gleditschiae	— triacanthi (see Sacc.).
—	ribis	—	ribis.	
—	dulcamarae	—	dulcamarae	Hendersonia solani (see Fuckel).

Nitschkia.

801. **Nitschkia cupularis** (Fries) Karsten, Wt. II [311] c. icon., Syn: Sphaeria cup. Pers., Fries S. M. II [416], Fl. D. tab. 2159 fig. 2, Coelosphaeria cup. Sacc., Syll. I [91], Hypocrea cup. Sacc., Syll. II [535], Wt. II [143], Sphaeria pruni Schum. no 1307, Theekopformig Støvkugle (H. 37 [863]).
On dead branches of *Corylus* and *Prunus*. L. Stensgaard.

Fracchiaea.

802. **Fracchiaea heterogena** Sacc., Syll. I [93], Wt. II [312].
On branches of *Salix*. F. Odense.

Gibbera.

v. Höhnel regards Gibbera and Coleroa as the same genus (07).

803. **Gibbera vaccinii** Fries S. V. [412], Syll. I [600], Wt. II [312], Syn: Sphaeria vac. Sow., Fries S. M. II [418].

On living twigs of *Vaccinium vitis-idaea*. J. Undallslund!, Himmelbjerget ($^{20}/_{6}$ 83 R & Johanson).

Otthia.

804. **Otthia aceris** Wt. II [314], Syll. I [739].
On corticated branches of *Acer*. J. Aarhus ($^{2}/_{1}$ 09 F. & W. 09 [316]).

805. **Otthia pruni** Fuckel, Syll. I [735], Wt. II [314].
On dead branches of *Prunus*. S. Dyrehaven ($^{12}/_{3}$ 82 V. Sarauw).

806. **Otthia rosae** Fuckel, Syll. I [736], Wt. II [316].
On dead stems and branches of *Rosa*. S. Sorø ($^{2}/_{1}$ 82 V. Sarauw).

Cucurbitaria.

807. **Cucurbitaria pithyophila** (Fries) de Not., Syll. II [311], Wt. II [330], Syn: Sphaeria pit. Fries S. M. II [425].
On living branches of *Pinus Strobus*. S. Tisvilde (Helms); L. Knuthenborg Park ($^{2}/_{8}$ 84 see R 85 c).

808. **Cucurbitaria salicina** Fuckel, Syll. II [320] & IX [918].
Salix viminalis. S. Helenes Kilde.

809. **Cucurbitaria naucosa** (Fries) Fuckel, Syll. II [315], Wt. II [325], Syn: Sphaeria nauc. Fries S. M. II [416].
Ulmus montana. F. Vejstrup Aaskov ($^{15}/_{1}$ 65).

810. **Cucurbitaria berberidis** (Fries) Gray, Syll. II [308], Wt. II [319], Syn: Sphaeria berb. Fries S. M. II [415], Berberissens Sporekugle (R 69 [74]).
Was formerly very common on branches of barbery, but since this bush was prohibited by law the fungus has been exterminated together with its host.

811. **Cucurbitaria ribis** Niessl, Syll. II [322], Wt. II [328].
Ribes grossularia. F. Faaborg (J. J. Hansen see R 01 e).

812. **Cucurbitaria acervata** Fries S. V. [391], Syll. II [313] & IX [919], Wt. II [331], Syn: Sphaeria ac. Fries S. M. II [416].
Ascis cylindraceis breve stipitatis, octosporis, 180 μ × 25 μ; sporidiis oblique monostichis, ellipsoideo-oblongis, utrinque rotundatis, 7—12-septato-muriformibus, ad septum medium conspicue constrictis, fuscis, 35—37 μ × 12—15 μ (R in herbario).
Pirus malus. F. Rugebjerg ($^{21}/_{5}$ 83).

813. **Cucurbitaria amorphae** (Wallr.) Fuckel, Syll. II [311] & IX [919], Wt. II [321], Syn: Pleosphaeria otagensis (Linds.) Sacc., Syll. IX [912].
Amorpha fruticosa. F. Skaarup.

814. **Cucurbitaria coronillae** Fries S. V. [391], Syll. II [312].
Coronilla emerus. F. Skaarup; S. Vintappersøen (O. R.).

815. **Cucurbitaria elongata** (Fries) Grév., Syll. II [309], Wt. II [322], Syn: Sphaeria elong. Fries S. M. II [422].
Robinia pseudacacia. F. Brændeskov; S. Hummeltofte (O. R.), Botanisk Have (V. Sarauw April 81); L. Stensgaard.

816. **Cucurbitaria laburni** (Fries) Ces. & de Not., Syll. II [308], Wt. II [320], Syn: Sphaeria lab. Fries S. M. II [413], Guldregnens Sporekugle (R 69 [74], 79 [19]), Lit: R 92 j [65] c. icon. & 02 a [452] c. icon.
On corticated branches of *Cytisus laburnum*, very common, April—Sept. On *Cytisus alpinus*. S. Øresundshøj.

817. **Cucurbitaria spartii** (Fries) Ces. & de Not., Syll. II [312], Wt. II [323].
On twigs of *Sarothamnus scoparius* common, f. inst. J. Tværsted (M. L. M.); F. Skaarup. *Ulex europaeus*. J. Silkeborg!.

818. **Cucurbitaria dulcamarae** Fries S. V. [391], Syll. II [321] & IX [920], Wt. II [328], Syn: Sphaeria dulc. Fries S. M. II [421].
Solanum dulcamara. S. Lyngby Mose ([8]/10 08!).

Amphisphaeriaceae.

Amphisphaeria.

819. **Amphisphaeria papillata** de Not., Syll. I [725], Wt. II [265].
The fungus, described by de Notaris in Sferiacei Italici is not identical with Sphaeria papillata Schum. no 1296, Fries S. M. II [461]. The original specimen of Schumachers, still preserved in his herbarium, is Rosellinia aquila.
On dead wood of *Populus*. J. Aarhus (P. L.).

820. **Amphisphaeria umbrina** (Fries) de Not., Syll. I [720], Wt. II [264], Syn: Sphaeria umb. Fries S. M. II [461], Fl. D. tab. 2332 fig. 2, Sphaeria mammillaris Schum. no 1277, Graabrun Støvkugle (H. 37 [866]).
On dead roots of *Alnus glutinosa*. S. (Schum.).

Trematosphaeria.

821. **Trematosphaeria pertusa** (Fries) Fuckel, Syll. II [115], Wt. II [269], Syn: Sphaeria pert. Fries S. M. II [464].
On wood of *Fagus silvatica*. J. Silkeborg (! [25]/4 07).

822. **Trematosphaeria hydrela** (Rehm) Sacc., Syll. II [117], Wt. II [272].
On corticated branches of *Fagus silvatica*. J. Krabbesholm Skov ([10]/4 04!).

823. **Trematosphaeria mastoidea** (Fries) Wt. II [274] c. icon., Syn: Sphaeria mast. Fries S. M. II [463], Melomastia Friesii Nke., Syll. II [213].
Populus tremula. S. Charlottenlund (V. Sarauw). *Fraxinus excelsior*. S. Vemmetofte. *Lonicera periclymenum*. L. Stensgaard (Aug. 63). *Lonicera xylosteum*. Møens Klint (Exc. [13]/6 1910).

824. **Trematosphaeria demersa** (Otth.) Sacc., Syll. XIV [575].
Lonicera periclymenum. J. Krabbesholm ([1]/11 03!).

Strickeria (incl. *Teichospora* & *Pleosphaeria*).

825. **Strickeria mutabilis** (Quél) Wt. II [288], Syn: Pleosphaeria mut. Sacc., Syll. II [306], Lit: Lind 07 c [273].
Salix aurita. J. Silkeborg (! [15]/3 07).

826. **Strickeria pruniformis** (Nyl.)!, Syn: Teichospora prun. Karst., Syll. II [298].
On the bark of *Salix*. S. Hæsede (Toussieng).

827. **Strickeria pomiformis** Karsten, Syll. II [301].
Populus alba × *tremula*. S. Geelskov.

828. **Strickeria obducens** (Fries) Wt. II [295], Syn: Sphaeria ob. Schum. no 1286, Fries S. M. II [456], Teichospora ob. Fuckel, Syll. II [295], Omfattende Støvkugle (H. 37 [865]).
On wood of *Fagus silvatica*. S. Boserup (O. R.), Sorø (V. Sarauw).

Strickeria brevirostris (Fries) Wt. II [283], Syn: Sphaeria brev. ? congener Fries S. M. II [474], Fl. D. 2040, Sph. congener Schum. no 1268, Teichospora brev. Fuckel, Syll. II [295] & IX [903].

Lophiostomaceae.

Lophiostoma.

829. **Lophiostoma arundinis** (Fries) Ces. & de Not., Syll. II [699] & IX [1090], Wt. II [301], Syn: Sphaeria ar. Fries S. M. II [510], Lophiostoma semiliberum (Desm.) Ces. & de Not. Wt. II [295], Lophiotrema sem. Sacc., Syll. II [682] (see Rehm 11 b [105]).
Arundo phragmites and other gramineae. J. Non Molle!, Nebsager (O. R.); S. Lyngby Mose (! & O. R.); L. Juellinge Kohave ([19]/7 95).

830. **Lophiostoma vagans** Fabr., Syll. II [698].
Hordeum arenarium. S. Tisvilde (July 98 see R 99 a [276]).

831. **Lophiostoma appendiculatum** Fuckel, Wt. II [305], Syn: Lophiotrema ap. Sacc., Syll. II [706], Lophiotrema auctum Sacc., Syll. II [688].
On decorticated branches of *Salix pentandra*. S. Bidstrup ([15]/6 07!).

832. **Lophiostoma macrostomoides** Ces. & de Not., Syll. II [694], Wt. II [302], Syn: Loph. pseudomacrostomum Sacc. Syll. II [695], Wt. II [299] (see Rehm 11 b [104]).
Ascis 92—100 µ × 11—16 µ; sporidiis 32—33 µ × 8—10 µ, 3—5 septatis, ad sepimentis constrictis, fuscis.
Salix cinerea. S. Lyngby Mose ([8]/10 08!).

833. **Lophiostoma nucula** (Fries) Ces. & de Not., Wt. II [293], Syn: Sphaeria nuc. Fries S. M. II [466], Lophiotrema nuc. Sacc., Syll. II [679], Loph. duplex Karsten, Wt. II [292], Syll. II [679] (see Rehm 11 b [96]).
On corticated branches of *Populus tremula*. J. Nebsager (July 91 O. R.). *Crataegus monogyna*. F. Svenborg!.

834. **Lophiostoma compressum** (Fries) Ces. & de Not., Wt. II [305], Syn: Sphaeria comp. Fries S. M. II [470], Lophidium comp. Sacc., Syll II [711], Lophidium ramorum (Nke.) Sacc., Syll. II [713], Wt. II [307] (see Rehm 11 [110]).
Salix caprea. S. Hareskov (Ø. W.). *Populus tremula*. S. Charlottenlund ([20]/1 82 V. Sarauw). *Populus pyramidalis*. F. Broholm. *Fagus silvatica*. S. Aasevang (O. R.). *Quercus robur*. J. Silkeborg!. *Rosa canina*. S. Sorø (V. Sarauw). *Prunus spinosa*. S. Ermelunden & Sorø (V. Sarauw). *Crataegus*. S. Sorø (V. Sarauw). *Sambucus nigra*. J. Skive!. *Lonicera xylosteum* (hosp. nov.). Møens Klint (Exc. [12]/6 09). *Lonicera periclymenum*. J. Knivholt!, Skovsgaard!; S. Dronninggaard (O. R.).

835. **Lophiostoma caulium** (Fries) Ces. & de Not. Syll. II [697] & IX [1090], Wt. II [300], Syn: Sphaeria caul. Fries S. M. II [509].
On dead stems of *Cheiranthus cheiri*. F. Tangegaard.

836. **Lophiostoma angustilabrum** (B. & Br.) Cooke, Wt. II [297], Lophiotrema ang. Sacc., Syll. II [687], Zignoella paecilostoma Sacc., Syll. II [220], Metaspheria ulicis Feltg. Syll. XVII [697], Lophiostoma praemorsum (Lasch) Sacc. f. paecilostoma (B. & Br.) Rehm 11 [100].
Peritheciis subsuperficialibus; paraphysibus numerosis, filiformibus; sporidiis curvulis, 1-septatis, constrictis, denique 3-septatis, 3-guttulatis, utrinque attenuatis, hyalinis, strato gelatinoso obvolutis, 30—35 µ × 5—6 µ.
On corticated twigs of *Ulex europaeus*. J. Hattenæs ([9]/12 06!).

837. **Lophiostoma crenatum** (Fries) Fuckel, Wt. II [294], Syn: Sphaeria cren. Pers., Fries S. M. II [469], Lophiotrema cren. Sacc. Syll. II [680].
Prunus spinosa. S. Sorø (V. Sarauw).

Sphaerelloideae.

Ascospora.

Ascospora Beijerinckii produces two different forms of conidial fructification viz. Phyllosticta Beijerinckii and Coryneum Beij. (see Vuillemin).

Ascospora melaena corresponds to Phoma melaena.

838. **Ascospora reticulata** (Fries)!, Syn: Sphaeria ret. de Cand. Fl. Fr. VI [138], Asteroma ret. Chev. Fl. Paris I [447], Syll. III [214], All. VI [458], Dothidea ret. Fries S. M. II [560], Asteroma (subg. Combosira) ret. Fries S. V. [425], Asteroma polygonati de Cand., Sphaeria asteroma Fries Vet. Ak. 1817, Dothidea ast. Fries Scler. no 328 & S. M. II [560], Sphaerella ast. Karsten, Syll. I [523], Wt. II [363], Mycosphaerella ast. Lindau, E. & P. 97 [424], Ascospora ast. Fries S. V. [425], Sphaeria crispans Wallr., Depazea crisp. Fries El. II [111], Syll. III [65]. Lit: Vleugel 11 [326]. See tab. III fig. 42.

Fries places this species just after Ascospora himantia expressly writing: "Praecedentes valde affinis". On examination of the specimens of Rostrup's herbarium and by looking through the scattered information about this fungus occurring in mycological literature I obtained just the same result as that which I see has been obtained by Diedicke as to Ascospora himantia, viz.: that the hypophyllous, reticulated mycelium will produce the ascigerous fructification only. Consequently it is quite wrong that this mycelium should be classed separately under the fungi imperfecti.

Majanthemum bifolium. J. Rindsholm ([4]/11 85 Gad); S. Geelskov (Exc. [23]/9 88).

Guignardia.

Syn: Laestadia Awd. non Lessing, Karlia Bon. non Rabenh.

Guignardia Bidwelli corresponds to Phoma uvicola (see Jaczewsky).

— baccae — — reniformis (see Jacz.).

839. **Guignardia caricicola** (Fuckel)!, Syn: Laestadia car. Sacc. Syll. I [430], Wt. II [401].

In leaves of *Carex limosa*. J. Utoft Plantage.

840. **Guignardia microspora** (Awd.) Lindau, Syn: Laestadia mic. Sacc., Syll. I [424], Wt. II [400], R 02 a [483].

On sheaths of *Avena elatior*, Falst. Stubbekobing (see R 99 d [42]).

841. **Guignardia perpusilla** (Desm.)!, Syn: Laestadia per. Sacc. Syll. I [423].

Calamagrostis stricta. S. Sonderso.

842. **Guignardia alnea** (Fries) Schroeter 08 [330], Syn: Sphaeria al. Fries S. M. II [520], Laestadia al. Awd., Syll. I [420], Wt. II [396].
On fallen leaves of *Alnus glutinosa*. J. Undallslund (! 24/5 03), Lindum Skov!.

843. **Guignardia punctoidea** (Cooke) Schroeter, Syn: Laestadia punct. Awd., Syll. I [420], Wt. II [396].
On fallen leaves of *Quercus robur*. S. Charlottenlund (May 91 O. R.).

844. **Guignardia millepunctata** (Desm.)!, Syn: Laestadia mil. Desm., Syll. I [426].
On leaves of *Rhododendron arboreum*. S. Forsthaven (5/4 93 see R 02 a [463]).

845. **Guignardia Cookeana** (Awd.)!, Syn: Laestadia Cook. Wt. II [397], Syll. I [421].
On fallen leaves of *Quercus robur*. J. Hald Egeskov (! 31/3 03).

846. **Guignardia leucothoës** (Cooke)!, Syn: Laestadia leu. Sacc., Syll. IX [581].
On dead leaves of *Leucothoë axillaris*. S. Forsthaven (4/8 97).

Stigmatea.

Stigmatea ranunculi corresponds to Ramularia aequivoca (see Voglino. Annal. myc. II).
Stigmatea mespili corresp. to Entomosporium mespili (see Ldau 08 [236]).

847. **Stigmatea alni** Fuckel, Wt. II [339], Sphaerella alni Sacc. Syll. I [493].
On leaves of *Alnus glutinosa*. S. Raavad (A. B.).

848. **Stigmatea ranunculi** Fries S. V. [421] Syll. I [542], Wt. II [339].
On leaves of *Ranunculus auricomus*. F. Bjørnemose.

849. **Stigmatea Robertiani** Fries S. V. [421], Syll. I [541], Wt. II [338], Syn: Dothidea Rob. Fries S. M. II [644].
Epiphyllous on living leaves of *Geranium Robertianum*, common.

850. **Stigmatea pirolae** (Fries) Schroeter 08 [332], Syn: Sphaeria pir. Ehrb., Fries S. M. II [528], Depazea pir. Sacc., Syll. III [64], Sphaerella chimophillina Peck, Syll. XI [297]. See tab. IV figg. 49 & 50.
Maculis magnis expallescentibus, fuscomarginatis. Peritheciis epiphyllis, in greges maculiformes atros congestis, innato-prominulis, sphaeroideis, laevibus, nigris, 120—150 μ lat., contextu minutissime celluloso, ostioli prunctiformi. Ascis clavatis, apice rotundatis, subsessilibus, fasciculatis, aparaphysatis, 40—56 μ × 8 μ, 8 sporis. Sporidiis subdistichis, inaequaliter uniseptatis, hyalinis, 12—14 μ × 4 μ.
On living leaves of *Chimophilla umbellata*. B. Sandflugtsskoven. (Exc. 15/5 1911).

851. **Stigmatea andromedae** Rehm, Syll. I [542], Wt. II [339].
Andromeda poliifolia. J. St. Vildmose ([24]/6 83), Nonbo (Gad).

852. **Stigmatea clymenia** (Sacc.) Schroeter, Syn: Sphaerella clymenia Sacc., Syll. I [492].
On living leaves of *Lonicera periclymenum.* S. Ørholm ([18]/10 08 F. & W. 09 [316]).

Mycosphaerella.

The large genus of Mycosphaerella has been somewhat better examined than many others of these genera. As to a few species two conidial stages have been stated, either a pycnidial stage and a hyphomycetous stage or two pycnidial stages of which one is furnished with short spores (Phyllosticta) the other with long spores (Septoria).

Mycosphaerella	brunneola	corresp.	Septoria subradians (see K. 90).
—	scirpi lacustris	—	Rhabdospora scirpi (see All. VI [922]).
—	populi	—	Septoria populi (see Bref. 91 [215]).
—	ulmi	—	Phleospora ulmicola (see Klebahn 02).
—	maculiformis	—	Phleospora quercicola.
—	—	—	— aesculi.
—	—	—	— aceris.
—	—	—	— castanicola.
—	isariphora	—	Septoria stellariae.
—	ribis	—	Septoria ribis & Phyllosticta grossulariae.
—	oxyacanthae	—	Phleospora oxyacanthae.
—	lathyri	—	Phleospora lathyri & Phyllosticta minussinensis.
—	Jaczewskii	—	Phleospora caraganae & Phyllosticta Borszczowii (see Potebnia 10).
—	piri	—	Septoria nigerrima.
—	hedericola	—	— hederae.
—	aegopodii	—	— podagrariae (see Potebnia 10).
—	stemmatea	—	— stemmatea & Phyllosticta stemmatea.

Concerning a number of species only the pycnidial stage which has short spores is known (of the formgenera Phyllosticta, Phoma, Asteroma etc.).

Mycosphaerella	quercina	corresp.	Aposphaeria quercina.
—	nebulosa	—	Phoma nebulosa.
—	tabifica	—	— betae (see Prillieux).
—	millepunctata	—	— anigozanthi (see F. Tassi).
—	brassicicola	—	Asteroma brassicae (see Ouds. 97).
—	eryngii	—	— eryngii (see Diedicke 11 b).
—	libanotidis	—	— libanotidis (see Diedicke 11 b).
—	evonymi	—	Phyllosticta evonymella.
—	laureolae	—	— laureolae.
—	Dejaniza	—	— arunci (Saccardo).
—	ligustri	—	— ligustri (Saccardo).
—	picridis	—	— farfarae.
—	clymenia	—	— vulgaris.
—	recutita	—	Scolicotrichum graminis.
—	aronici	—	Fusicladium aronici (Volkart).
—	Tulasnei	—	Cladosporium herbarum (see Jancz. 94).
—	cerasella	—	Cercospora cerasella (see Aderh. 00).
—	millegrana	—	— microsora (Jaap).
—	vulneraria	—	— radiata (Fuckel).
—	affinis	—	— carlinae (Lindau IX [138]).
—	salicicola	—	Ramularia rosea (Jaap).
—	fragariae	—	— Tulasnei (Tul. Carp. II [288]).
—	carinthiaca	—	— trifolii (Jaap 10 [8]).
—	lysimachiae	—	— lysimachiae (v. Höhnel 05 [556]).
—	hieracii	—	— hieracii (Jaap 08 [36]).
—	tussilaginis	—	— brunnea (Wolf 12).

All species of Mycosphaerella Johanson (not Sacc.) are called Sphaerella in the manuals of Saccardo and Winter.

853. **Mycosphaerella polypodii** (Rabh.) Magnus, Syll. I [539], Wt. II [393].

Polypodium vulgare. J. Bruddal (! [29]/5 99); S. Lyngby (M. L. M.).

854. **Mycosphaerella aquilina** (Fries) Schroeter, Syll. I [532], Wt. II,

Syn: Sphaeria aq. Fries S. M. II [522], Myc. pteridis (Desm.) Schroeter, Syll. I [531], Sphaerella indistincta Peck, Syll. I [532] (see Vgr. 97 b).
Pteridium aquilinum. J. Thorsager Skov (! 15/5 04).

855. **Mycosphaerella filicum** (Desm.) Starbäck, Syll. I [532], Wt. II [357].
Aspidium filix mas. J. Sødal near Viborg (! Exs. Vgr. no. 1080); F. Kværndrup, Ulkensdal, Aaby (Johanson). *Aspidium spinulosum.* F. Holmdrup; S. Frederiksdal; B. Rø.

856. **Mycosphaerella equiseti** (Fuckel) Schroeter, Syll. I [534], Wt. II [356].
Equisetum fluviatile. S. Ruderhegn (1/12 07 F. & W. 09 [316]).

857. **Mycosphaerella taxi** (Cooke)!, Syll. I [480].
On dead leaves of *Taxus baccata.* S. Forsthaven (27/5 05 N. Esbjerg).

858. **Mycosphaerella abietis** (Rostrup) Ldau 08 [534], R 02 a [597], 03 m, 05 d, 06 g.

Peritheciis amphigenis, nigris, epidermide innatis, dense sparsis, globosis poro simplici pertusis, c. 125 μ diam.; ascis fasciculatis, oblongis 50 μ × 10 μ, octosporis; sporidiis oblongo-ovatis, uniseptatis, hyalinis 12—16 μ × 5—6 μ, ad sepimentum constrictis, loculo intero paulo angustiore.

Rostrup supposes Phoma abietis and Toxosporium abietinum to be its conidial fructifications.
On leaves and shoots of *Abies alba* very common. *Abies cephalonica.* S. Fredensborg (C. Larsen), Forsthaven (Schmidt), Rosenfeld. *Abies Nordmanniana.* F. Glorup (A. Bruun). *Abies pinsapo.* S. Gjorslev. *Abies arizonica.* S. Kvistgaard!.

859. **Mycosphaerella juncaginearum** (Lasch) Schroeter 08 [369], Syn: Phaeosphaerella junc. Sacc. Syll. XI [312], Dothidea junc. Lasch, Diaporthe (Euporthe) junc. Rostrup 95 a [208] & 03 b, Syll. XI [311]. The steril mycelium is called Asteroma juncaginearum Rabenh., Syll. III [214], All. VI [477], Ectostroma triglochinis Ouds, Syll. XVI [1109], Ldau IX [686] & [624]. Lit: Vleugel 08 [371]. See tab. III figg. 33—34.

Ascis clavatis 48 μ × 15 μ. Sporidiis flavis, 1 septatis, 4-guttulatis, 20—22 μ × 7—8 μ. (R 95 a). In specimens from Island, Rostrup (03 b) has stated: Ascis 64—68 μ × 12—16 μ; sporidiis 17—20 μ × 6—7 μ.

As may be seen from the quoted synonyms this fungus has been classified in various places of the system. It is not to be considered a Diaporthe its spores being yellow and its mycelium not being like the stroma of a Diaporthe. The mycelium is most like the mycelium

of Ascospora; it is developed as early as in July—October on the living leaves and stems, but it does not produce pycinidia (accordingly the species is no Asteroma). The perithecia do not become ripe until July—August of the succeeding year.

On leaves and stems of *Triglochin palustris & maritima*; quite common.

860. **Mycosphaerella bacillifera** (Karst.)!, Syll. IX [650].
Scheuchzeria palustris. S. Gammelmose (R 06 cc).

861. **Mycosphaerella scirpi lacustris** (Awd.) Ldau, Syll. I [529], Wt. [362].
Scirpus lacustris. S. Tjustrup Sø.

862. **Mycosphaerella Wichuriana** (Schroet.) Johanson, Syll. I [530].
On leaves of *Carex arenaria*. S. Lindersvold Fed ($^{13}/_{8}$ 87).

863. **Mycosphaerella longissima** (Fuckel)!, Syll. I [529], Wt. II [360].
Bromus asper. L. Stensgaard.

864. **Mycosphaerella recutita** (Fries) Johanson, Syll. I [527], Wt. II [361], Syn: Sphaeria rec. Fries S. M. II [524] — Lit: R 02 a [457].
Bromus Benekeni. S. Jægerspris Slotshegn (Gad). *Bromus ramosus*. F. Bangbo, Alslev Skov; S. Grønnæse. *Glyceria fluitans*. F. Holmdrup. *Aira caespitosa*. S. Ørsløv (P. N.).

865. **Mycosphaerella perforans** (Desm.)!, Syll. I [538]. See tab. III fig. 39.
Ascis 125 µ long., sporidiis 25—35 µ × 14—18 µ, fuscis (R 99 a [275]).
Calamagrostis arenaria. J. Tannishus!, Haastrup Strand!, S. Tisvilde (June 98).

866. **Mycosphaerella psammae** (Rostrup)!, R 99 a [275], Syll. XVI [475]. See tab. III fig. 36.
Peritheciis hypophyllis, sparsis; ascis oblongo-clavatis, 30—35 × 9 µ sporidiis oblongis, 1-septatis, ad sepimentum non constrictis, 15 × 4 µ.
Calamagrostis arenaria. S. Tisvilde (July 98).

867. **Mycosphaerella pusilla** (Awd.) Johanson, Syll. I [530], Wt. II [360].
Calamagrostis arenaria. J. Blokhus (E. W.).

868. **Mycosphaerella lineolata** (Desm.) Schroeter, Syll. I [531], Wt. II [359]. See tab. III figg. 37 & 38.
Ascis 40—60 µ × 10—12 µ; sporidiis 15—18 µ × 5 µ.
Calamagrostis arenaria. J. Gaardbogaard (O. R. July 89), Haastrup Strand!, S. Tisvilde (June 98 see R 99 a [275]). *Calamagrostis epigejos*. J. Lerbækgaardsskov!.

869. **Mycosphaerella basicola** (Frank)!, Syll. XI [300], R 02 a [457].
Hordeum sativum. S. Valby.

870. **Mycosphaerella exitialis** (Morini), Syll. IX [655], Brunpril: (R 99 c [123] & 02 a [457]).

Hordeum sativum. S. Søllerød, Vridsløsemagle, Barfredshøj, Vemmetofte and more other places.

871. **Mycosphaerella Tassiana** (de Not.) Johanson, Syll. I [530], Wt. II [359].

I am inclined to consider it quite identical with Myc. pachyasca (Rostrup) Vgr. (see Lind. 10 a c. icon.).

Calamagrostis arenaria. J. Tversted (M. L. M.). *Hordeum arenarium*. Falst. Bøtø. *Juncus squarrosus*. Læsø! *Eriophorum polystachyum*. F. Kirkeby. *Scirpus lacustris*. S. Lystrup! *Carex elongata*. F. Skaarup.

872. **Mycosphaerella typhae** (Lasch) Ldau, Syll. I [531], Wt. II [362]. *Typha latifolia*. J. Viborg (1/5 03!).

873. **Mycosphaerella schoenoprasi** (Rabh.) Vgr., Syll. I [522], Wt. II [364], R 02 a [457].

Allium porrum. J. Viborg!, F. Skaarup.

874. **Mycosphaerella brunneola** (Fries) All. & Schnabel Exs. no 537, Ouds. 97 [207], Syn: Sphaeria brun. Fries S. M. II [526], Sphaerella brun. Cooke, Syll. I [523], Wt. II [363], Mycosphaerella subradians Schroeter 08, Sphaerella subradians Awd.

Ascis clavatis, 42—52 µ × 6—8 µ; sporidiis distichis, ellipsoideis, 1-septatis, 9—11 µ × 4 µ, chlorino-hyalinis.

On dead leaves of *Convallaria majalis*, quite common in the spring.

875. **Mycosphaerella iridis** (Awd.) Schroeter, Syll. I [524], Wt. II [362], R 02 a [456].

Iris pseudacorus. J. Marselisborg; F. Kirkeby; L. Stenskov.

876. **Mycosphaerella populi** (Awd.) Schroeter, Syll. I [488], Wt. II [379] c. icon.

Populus deltoides. F. Skaarup.

877. **Mycosphaerella punctiformis** (Fries) Starbäck 89, Syll. I [476], Wt. II [382], Syn: Sphaeria punct. Pers., Fries S. M. II [525], Schum. no 1276, Fl. D. tab. 2036, Prikformig Støvkugle (H 37 [871]).

Common on fallen leaves of *Ulmus, Fagus, Quercus, Corylus*.

878. **Mycosphaerella maculiformis** (Fries) Schroeter, Syll. I [477], Wt. II [385], Syn: Sphaeria mac. Persoon, Fries S. M. II [524], Schum. no 1282, Fl. D. tab. 2100 fig. 3, tab. 2335 fig. 1, Sph. aesculi Schum. no 1283, Sph. castaneae Schum. no 1272, Fl. D. tab. 2333 fig. 3.

Very common on fallen leaves of *Ulmus, Fagus* (R 80 a [182]), *Quercus, Castanea, Acer platanoides, Tilia, Aesculus*.

879. **Mycosphaerella ulmi** Klebahn 02, Syll. XVII [642].

Common on dead leaves of *Ulmus*.

880. **Mycosphaerella isariphora** (Desm.) Johanson, Syll. I [510], Wt. II [370].

Stellaria holostea. J. Stensballe Skov (! 5/4 02).

881. **Mycosphaerella alsines** (Passer.)!, Syll. IX [622].

Ascis globosis 48—60 μ × 16 μ; sporidiis conglobatis, ellipsoideis, hyalinis, uniseptatis, 20 μ × 5 μ.

Is very closely connected with Mycosphaerella stellarinearum (Rabh.) Johanson and Myc. Tassiana (de Not.).

In abundance on dead stems and leaves of *Spergularia campestris*. Falst. Bøtø (8/8 90).

882. **Mycosphaerella applanata** (Ell. & Ev.)!, Syll. IX [613].

On dead twigs of *Clematis*. J. Rubjerg (! 17/7 01).

883. **Mycosphaerella brassicicola** (Duby) Ldau, Syll. I [502], Wt. II [371], R 03 o., Syn: Ascochyta brassicae Thümen, Syll. III [397], All. VI [633] (see Diedicke 12), Kaalens Bladpletsyge (R 02 a [455] c. icon.).

Peritheciis minutissimis, superficialibus, dense gregariis maculasque nebulosas efficientibus. Ascis brevibus, basi incrassatis, sursum angustioribus, crasse tunicatis, 44—48 μ × 10—12 μ. Sporidiis conglobatis, hyalinis, uniseptatis, non constrictis, rectis vel rariter curvatis, 17—20 μ × 4—5 μ.

Its conidial stage is supposed to be Asteroma brassicae Chev. (see Ouds 97 [211]).

Has several times proved very noxious in the gardens to leaves of various cultivated forms of *Brassica oleracea*.

884. **Mycosphaerella hyperici** (Awd.) Starbäck 89, Syll. I [519], Wt. II [377].

Hypericum perforatum. F. Kirkeby. *Hypericum quadratum*. S. Ordrup (E.W). *Hypericum hirsutum*. L. Hardenberg.

885. **Mycosphaerella depazeaeformis** (Awd.)!, Syll. I [512] & IX [625], Wt. II [367], Syn: Karlia oxalidis Rabh., Laestadia ox. Sacc., Syll. I [429], Mycosphaerella ox. All. & Schnabl no 338.

On living leaves of *Oxalis acetosella*. Møens Klint (Aug. 79, again 26/8 09!).

886. **Mycosphaerella latebrosa** (Cooke) Schroeter, Syll. I [482], Wt. II [391].

On fallen leaves of *Acer pseudoplatanus*. J. Hatting Mølle (! 8/5 02).

887. **Mycosphaerella ribis** (Fuckel) Feltgen, Syll. I [530], Wt. II [388] (not Sphaeria grossulariae Fries Sclerom. suec. no 57 see Vleugel 08 b), Lit: Voges 11. See tab. III fig. 35 & tab. IV fig. 52.

Very common on fallen leaves of *Ribes rubrum, nigrum, grossularia* in March—April.

888. **Mycosphaerella innumerella** (Karsten) Starbäck, Syll. I [506], Wt. II [370].

On the leaves of *Comarum palustre*. J. Viborg!; F. Skaarup; S. Gammelmose (R 06 cc).

889. **Mycosphaerella fragariae** (Tul.) Lindau, Syll. I [505], Wt. II [370], Syn: Stigmatea frag. Tul., Jordbærrets Bladpletsyge (R 02 a [453] c. icon.).

Ripe perithecia are seldom to be found, but the supposed conidial fructification (Ramularia) is very common in gardens (see R 87 e, 03 k, Dybdahl 79 [149], Lind 10 k). Hedlund (10) made the interesting discovery that this pest is solely limited to the hermaphrodites of Fragaria, never attacking the female ones; I have found the same to be the case in Denmark.

890. **Mycosphaerella crataegi** (Fuckel) Ouds 97 [215], Syll. I [483], Wt. II [389].

Crataegus monogyna. J. Skive (! 14/4 01).

891. **Mycosphaerella topographica** (Sacc.) Vgr. 97 b, Syll. I [480], Wt. II [388].

Sorbus aucuparia. J. Sødal near Viborg (! 10/5 06).

892. **Mycosphaerella cinerascens** (Fuckel) Vgr. 97 b, Syll. I [493] & IX [642], Wt. II [390].

On fallen leaves of *Sorbus aria*. J. Viborg (! 29/5 03). *Sorbus scandica*. J. Borris!.

893. **Mycosphaerella piri** (Awd.) Klebahn 08 a, Wt. II [389], Syn: Mycosphaerella sentina Schr., Wt. II [389], Syll. I [482] (not Sphaeria sentina Fries S. M. II [520] see Kleb. 06).

Common on fallen leaves of *Pirus communis*.

894. **Mycosphaerella vulneraria** (Fuckel)!, Syll. I [503], Wt. II [368], Syn: Ascochyta vul. Fuckel, Syll. III [393], All. VI [670] (see Diedicke 12).

On fading leaves of *Anthyllis vulneraria*, not uncommon, noticed from J. Gaardbogaard (Jørg. Larsen), Viborg!, Give (Bülow); F. (R 02 c [123]).

895. **Mycosphaerella microspila** (Berk. & Br.)!, Syll. I [503].

Epilobium montanum. J. Nørregaard in Salling!, Skovsgaard near Viborg!. *Epilobium palustre*. S. Bonderupgaard (Aug. 90).

896. **Mycosphaerella caulicola** (Karst.)!, Syll. I [521].

Chamaenerium angustifolium. S. Teglstruphegn. *Telekia speciosa*. F. Skaarup.

897. **Mycosphaerella hedericola** (Desm.) Ldau, Syll. I [481], Wt. II [387], R 02 a [456].

On leaves of *Hedera helix*. J. Krabbesholm Skov (! 10/6 98).

898. **Mycosphaerella rubella** (Niessl) Magnus, Syll. I [518], Wt. II [376].
On stems of *Angelica silvestris*. J. Krabbesholm Skov!, Rindsholm (Gad $^{2}/_{4}$ 85); S. Lyngby Mose (O. R.).

899. **Mycosphaerella stemmatea** (Fries) Romell, Syn: Depazea stem. Fries S. M. II [528], Stigmatea stem. Romell, Schroeter 08 [331], Sphaerella brachytheca Cooke, Syll. I [494].
On fading leaves of *Vaccinium vitis idaea*. J. Bigum Skov!, Viborg!, Hald ($^{10}/_{5}$ 85 Gad), Feldborg, Stendalsgaard, Silkeborg; S. Teglstruphegn.

900. **Mycosphaerella vaccinii** (Cooke) Schroeter, Syll. I [493], Wt. II [385], Syn: Sphaeria maculiformis Fries S. M. II [524] partim, Sphaerella myrtilli Awd.
On fallen leaves of *Vaccinium myrtillus*. J. Viborg ($^{16}/_{6}$ 03!).

901. **Mycosphaerella Winteriana** (Sacc.) Schroeter, Syll. I [516], Wt. II [374].
On dead stems of *Melampyrum pratense*. J. Viborg (! $^{26}/_{6}$ 06).

902. **Mycosphaerella pedicularis** (Karsten)!, Syll. I [501].
Pedicularis palustris. S. Lyngby Mose.

903. **Mycosphaerella Deschmannii** (Voss)!, Syll. IX [301].
The perithecia occur in great abundance in the living leaves, but they have never been found with asci and spores. It is to be doubted whether it is a Mycosphaerella or not. If the Fusicladium-like Hyphomycet which I have found on the same plants is a conidial fructification of this species it is to be supposed that it is a Venturia.
Gentiana pneumonanthe. J. Bangsbo (! $^{27}/_{7}$ 02. Exs. Vgr.), Undallslund (Sept. 00 Gad).

904. **Mycosphaerella albescens** (Rabenh.) Lind, Rehm 11, Syn: Sphaeria alb. Rbh., Syll. II [427], Sphaerella vincetoxici Sacc., Syll. I [516].
On dead stems of *Cynanchum vincetoxicum*. June—July. F. Skaarup; S. Fredrikssund (! Exs. Rehm no 1911), Bognæs.

905. **Mycosphaerella clymenia** (Sacc.)!, Syll. I [492].
Lonicera periclymenum. L. Søllested Skov.

906. **Mycosphaerella minor** (Karsten) Johanson, Syll. I [519].
Succisa praemorsa. F. Holmdrup ($^{22}/_{7}$ 83 Johanson).

907. **Mycosphaerella cucurbitae** (Rostrup)!, Syn: Sphaerella cuc. Rostrup 02 a [456].
Maculis numerosis, rotundis, atro-cinereis, emortuis, fuscomarginatis, epiphyllis. 1—5 mm latis. Peritheciis superficialibus, punctiformibus, lenticularibus, nigris. Ascis oblongo-clavatis, 65—75 μ × 9—10 μ, octosporis. Sporidiis oblongo-fusiformibus, 15—18 μ × 5 μ, uniseptatis.
On living leaves of *Cucurbita pepo*. S. Lyngby ($^{3}/_{9}$ 97 K. H.).

908. **Mycosphaerella affinis** (Wt.) Starbäck, Syll. I [509], Wt. II [365].
On the specimens, which Rostrup and I have found, Cercospora carlinae will attack the young, living leaves, while on the dead, basal leaves the perithecia are arranged in a circle round the spots caused by Cercospora in the preceding year.
Carlina vulgaris. J. Tannishus!; F. Kirkeby ([29]/7 83).

Pharcidia.

909. **Pharcidia epicymatia** (Wallr.) Wt. II [342], Syn: Epicymatia vulgaris Fuckel, Syll. I [571], D. B. 69 [200].
Lecanora subfusca. J. Viborg; F. Hindsgavl, Albjerg, Vejstrup, Tiselholt; L. Hellinge. *Lecanora Hageni*. F. Holmdrup. *Parmelia* (leg Hoffmeyer). *Placodium cerinum*. F. Glorup. *Sphyridium byssoides*. J. Trudsholm.

Tichothecium.

910. **Tichothecium erraticum** Mass., Syll. IX [726], Wt. II [350], Syn: Endococcus err. Nyl., D. B. 69 [223] & [260].
Placodes aurantiacus. F. Skaarup; L. Aalholm.

911. **Tichothecium gemmiferum** (Tayl.) Körb., Syll. IX [725], Wt. II [350], Syn: Endococcus gem. Nyl., D. B. 69 [260].
Lecidia fuscoatra & *parasema*. F. Klingstrup. *Buellia pulch*. F. Svanninge.

912. **Tichothecium haplotellus** (Nyl.) D. B. 69 [247] & [260], Syn: Endococcus hap. Nyl.
In the fruits of *Arthonia radiata* on trunks of *Tilia*. S. Borreby.

913. **Tichothecium pygmaeum** Körber, Syll. IX [726], Wt. II [349], D. B. 69 [223].
Lecidia subulata. F. Klingstrup. *Lecidia fuscoatra*. F. Helager. *Biatorina cyrtella*. F. Oure ([19]/5 66).

Sphaerulina.

914. **Sphaerulina trifolii** Rostrup 99 a [265], 99 d [43], 02 a [484].
Maculis circularibus, 2—3 mm diam., copiosis, pallidis, zona purpurea cinctis; perithecis epiphyllis, membranaceis, dilute fuscis; ascis crasse ovoideis, 50 μ diam., octosporis; sporidiis hyalinis, oblongis 3-septatis, 32—33 μ l., 12—15 μ cr. In foliis vivis.
Trifolium repens. S. Landbohøjskolens Forsøgsmark ([15]/7 98 & Sept. 01).

Pleosporaceae.

Physalospora.

The species of Physalospora have been said to be connected with quite different forms of conidial fructification; either these statements must be wrong or all the stated four species are not true species of Physalospora.

Physalospora	gregaria	corresp.	Dothiorella gregaria (accord to Sacc.).
—	phormii	—	Fusarium phormii (P. Hennings).
—	catteyae	—	Gloeosporium macropus (according to Maublanc in Bull. Soc. Myc. France XX [167]).
—	minutula	—	Phoma cyclospora (Saccardo).

915. **Physalospora fallaciosa** Sacc., Syll. I [438], Wt. II [410], R 02 a [483].
Parasitical on leaves of *Canna* in hothouses. S. København.

916. **Physalospora salicis** (Fuckel) Sacc., Syll. I [439], Wt. II [411].
Salix viminalis. F. Skaarup; L. Sakskøbing. *Salix dasyclados* × *purpurea.* J. Brædstrup (W. Mark); S. Værebro (Prytz). *Salix purpurea* × *viminalis.* Langeland.

917. **Physalospora astragali** (Lasch.) Sacc., Syll. I [437], Wt. II [412], R 99 a [264].
Parasitical on leaves and stems of *Astragalus danicus.* S. Tisvilde Hegn, Asserbo (abundantly), Sonnerup Plantage, Basnæs ([20]/9 74 P. N.).

918. **Physalospora empetri** Rostrup 01 n [310], Syll. XVII [583], Syn: Phys. alpina Speg. var crepiniana Sacc., Syll. IX [594].
Peritheciis epiphyllis, sparsis; ascis cylindraceis; sporidiis octonis, monostichis, ellipsoideis, simplicibus, 18—20 μ × 10—12 μ, hyalinis.
Empetrum nigrum. J. Ved Sø; S. Rørvig.

919. **Physalospora clarae-bonae** Spegaz., Syll. I [438], Wt. II [411].
Vaccinium vitis idaea. J. Hald Egeskov ([18]/4 05!).

Apiospora.

920. **Apiospora parallela** (Karsten) Sacc., Syll. I [540].
On straw. J. Nebsager (July 91 O. R.).

Venturia.

The species of the genus of Venturia almost all correspond to forms of Fusicladium viz.:

Venturia	chlorospora	corresp.	Fusicladium	saliciperdum.
—	tremulae	—	—	radiosum.
—	ditricha	—	—	betulae.
—	cerasi	—	—	cerasi.
—	fraxini	—	—	fraxini.
—	inaequalis	—	—	pomi.
—	— var pyracanthae	—	—	— var pyracanthae.
—	pirina	—	—	pirinum.
—	crataegi	—	—	crataegi.
—	aucupariae	—	—	orbiculatum (see Aderh. 03).

921. **Venturia graminicola** Wt. II [433], Syll. I [594].
Aira uliginosa. S. Lindersvold. August.

922. **Venturia chlorospora** (Ces.) Karsten, Syll. I [586], Wt. II [436].
Salix caprea. J. Viborg ($^2/_9$ 03!).

923. **Venturia populina** (Vuill.) Fabricius 04 [282], Syn: Didymosphaeria pop. Vuillemin 89, Syll. IX [730], Venturia tremulae Frank, R 02 a [463].
On fallen leaves of *Populus tremula,* April—July. J. Langaa ($^{19}/_7$ 02!).

924. **Venturia ditricha** (Fries) Karsten, Syll. I [587], Wt. II [437], R 02 a [467], Syn: Sphaeria dit. Fries S. M. II [515].
On fallen leaves of *Betula alba.* J. Krabbesholm Skov ($^1/_4$ 01!), Langaa!; B. Finnedalen (Neger 06).

925. **Venturia rumicis** (Desm.) Wt. II [435], Syn: Sphaerella rum. Cooke, Syll. I [512].
On living leaves of *Rumex nemorosus.* Falst. Tromnæs ($^{24}/_7$ 98 see R 99 b).

926. **Venturia glomerata** Cooke, Syll. I [592], Syn: Venturia geranii Wt. II [434] (exclus. synon.), Stigmatea ger. Ouds 73 [317] c. icon. & Syll. I [541] nec. Fries S. V. [421]. See tab. III fig. 40 & 41.
Perithecii in maculis decoloratis hypophyllis, gregariis, liberis, minutis, pilis rigidis erectis 35—64 μ longis, basi 4 μ brevis, apice acutis, coronatis. Ascis cylindraceo-clavulatis, brevissime stipitatis, 35—40 μ 7—8 μ, aparaphysatis, octosporis. Sporidiis subdistichis, clavato-oblongis, uniseptatis, constrictis, loculo, infero multo minore, chlorinis, 10—12 μ : 5 μ.
This species is very much like Venturia Johnstonii, its perithecia are placed on the upper side of decaying spots in living leaves of Geranium. It has often been confused with Coleroa circinans, which does not cause dead spots, and with Dothidella geranii (Ouds. 97 [233]) whose perithecia are conglomerate without setula, and which only

occur on leaves of Geranium silvaticum. The specimens of this species distributed by Plowright in Thüm. Myc. no 967 are quite like the Danish specimens in Rostrup's herbarium. It may be found from October to April, and it is not improbable that it should correspond with Ramularia geranii (see Syll. I [542]).

On living leaves of *Geranium pusillum*. F. Klingstrup ([3]/1 74). *Geranium molle*. S. Landbohøjskolen. *Geranium dissectum*. F. Skaarup; S. Folevad (M. L. M.), Prinsessestien!, Antvorskov!.

927. **Venturia fraxini** (Fries) Aderhold 97, Syll. XIV [541], Syn: Dothidea frax. Fries S. M. II [561], Venturia ditricha (Fries) K., var. fraxinicola Rehm, Syll. IX [690], Phyllachora fraxini Rostrup 80 a [143] & 88 l, ? Asteroma frax. de C., Septoria frax. Fries El. II [119].

Quite common on fallen leaves of *Fraxinus excelsior*, May. J. Hatting Mølle!; F. Odense, Ringe!, Klingstrup, Skaarup (Exs. Thümen Myc. no 898); S. Ruderhegn, Boserup Skov (O. R.); B. Almindingen!.

928. **Venturia pirina** (Lib.) Aderh., R 02 a [458] c. icon.

Common on fallen leaves of *Pirus communis*, April—June.

929. **Venturia inaequalis** (Cooke) Wt. II [436], Syll. I [587], Lind & Ravn 10 [19] c. icon.

Common on fallen leaves of *Pirus malus*. March—June.

930. **Venturia aucupariae** (Lasch) Rostrup, Syn: Septoria sorbi Lasch sec. Cooke, Phyllachora sorbi Rostrup 80 a [144], Didymosphaeria aucupariae (Plowr.) Ouds 97 [466], Syll. XIV [552], Sphaerella auc. Sacc., Syll. I [537].

On fallen leaves of *Sorbus aucuparia*, common, noticed from: J. Tvorup Klit, Viborg!, Silkeborg; F. Rødskebølle Mose ([25]/9 70), Skaarup; S. Ravnsnæs Skov, Frederiksdal etc.

931. **Venturia Johnstonii** (Berk. & Br.) Sacc., Syll. I [592], Syn: Venturia maculaeformis (Desm.) Wt. II [435], Laestadia epilobiana Sacc., Syll. I [429].

Peritheciis in maculis decoloratis epiphyllis, globoso-conicis, circa verticem setulis cuspidatis, nigris 35—50 μ × 4—5 μ vestitis. Ascis ventricoso-elongatis, 60—65 μ × 10—12 μ, aparaphysatis. Sporidiis distichis, chlorino-hyalinis, irregulariter uniseptatis, 14—16 μ × 6 μ, 4—6 guttulatis, cellula superiore magna, cellula inferiore minuta.

July—September, on living leaves of *Epilobium montanum*. J. Krabbesholm Skov (! Exs. Vgr.), Marselisborg Skov!. *Epilobium palustre* (hosp. nov.). J. Nørrestrand near Horsens! *Epilobium hirsutum*. J. Barridskov (! [8]/9 01).

932. **Venturia systema solare** (Fuckel) Wt. II [437], Syll. IX [696].

On dead leaves of *Cornus sanguinea*. J. Sødal near Viborg ([10]/5 04!).

933. **Venturia myrtilli** Cooke, Syll. I [590], Wt. II [439].
On dead leaves of *Vaccinium myrtillus*. I. Viborg ([16/6] 03!).

934. **Venturia cincinnata** (Fries) Rostrup, Syll. IX [693], Syn: Sphaeria cin. Fries S. M. II [451].
On fading leaves of *Oxycoccus palustris*. S. Gammelmose ([5/9] 84 see R 06 cc [357]).

Didymosphaeria (incl. *Didymella*).

Fuckel supposed a few species of Didymosphaeria to correspond to forms of Diplodia for instance:

Didymosphaeria diplospora corresp. Diplodia rubi
— vexata — — mamillana

any further proof of the correctness of this theory has, however, not appeared.

935. **Didymosphaeria marina** (Rostrup)!, Syn: Leptosphaeria mar. R 89 i [234], Syll. IX [797], non Ell. & Ev. 1885, Leptosphaeria danica Berlese 94 [87], Leptosphaeria chondri L. K. R. 07, Sphaerella chondri Jones 98, Syll. XVI [475], Lit. Cotton 09.

Peritheciis maculiformiter congestis, parenchymate innatis, lenticularibus 125—215 μ × 110—300 μ. Ascis fusoideis 70—80 μ × 10—15 μ, octosporis, paraphysibus filiformibus, ramosis, obvallatis. Sporidiis subdistichis, ovoideo-oblongatis, medio uniseptatis, 25—40 μ × 5—7 μ loculo inferiore minore, longe hyalinis, denique fuscidulis. Spermogonia Phomam referentia, peritheciis ascophoris immixta, 150—175 μ × 85—100 μ, spermatiis minutis 4 μ × 1 μ.

No doubt the fungus is no Leptosphaeria. The spores and the asci are usually unripe, still I have noticed brown, apparently ripe spores (28 μ in length and 6 μ in breadth) with only one dissepiment; more than one dissepiment has surely never been noticed either by Rostrup or by others. Nor are the shape and the position of the asci in the perithecia like those of Leptosphaeria. The perithecia are not built like those of the Sphaeriaceae living on phanerogames. There is much to suggest its being a species of Dothideaceae especially a Dothidella. The stroma-like mycelium, the long unripe asci and spores, its appearance together with a Placosphaeria-like form of pycnide are signs of this. Contrary to the supposition that it is a Dothidella is the circumstance that the stroma is certainly started after the perithecia and not previous to them. When I refer this species to Didymosphaeria it is chiefly because it has paraphyses.

Besides in Denmark it has been found in Ireland (Cotton) and in America, Massachusetts (Jones).

Rosenvinge has described the conidial stage of Didymosphaeria marina without giving any name to it, I shall call it Phoma marina.

On living thallus, especially in the sporangia, of *Chondrus crispus*. J. Skagen (L. K. R.), Hirtshals (1874 E. R. again [27/7 02!]), Hanstholm (L. K. R.), Klitmøller (Mrs. V. Fabritius de Tengnagel), Læsø (L. K. R.).

936. **Didymosphaeria culmigena** (Sacc.),! Syn: Didymella culm. Sacc. Syll. I [558].
Hordeum sativum. S. Brøndbyvester, Barfredshøj (Nov. 95).

937. **Didymosphaeria intercellularis** (Berk. & C.)!, Syn: Didymella int. Sacc. Syll. I [559].
Typha latifolia. F. Kirkeby.

938. **Didymosphaeria betulae** (Niessl) Sacc., Syll. I [707].
On twigs of *Alnus glutinosa*. S. Aasevang (May 91 O. R.).

939. **Didymosphaeria obtecta** (Fries)!, Syn: Sphaeria ob. Fries S. M. II [482], Didymosphaeria celata (Currey) Sacc., Syll. I [705], Wt. II [574].
On brittle wood of *Quercus*. S. Hareskoven ([27/4 08!]).

940. **Didymosphaeria superflua** (Awd.) Niessl, Wt. II [425], Syn: Didymella sup. Sacc., Syll. I [555].
Quite common on dead stems of *Urtica dioeca*, April—May, associated with its supposed conidial form: Phoma nebulosa.

941. **Didymosphaeria empetri** (Fries) Sacc., Syll. I [704], Syn: Sphaeria emp. Fries S. M. II [522].
On leaves of *Empetrum nigrum*. J. Husby Klit, Klitmøller, Viborg Krat.

942. **Didymosphaeria acerina** Rehm, Syll. I [714], Wt. II [421].
On twigs of *Acer campestre*. S. Dyrehaven ([20/3 82 V. Sarauw]).

943. **Didymosphaeria bruneola** Niessl, Syll. I [709], Wt. II [419].
Rubus fruticosus. J. Marselisborg ([30/12 07 see F. & W. 09 315]).

944. **Didymosphaeria applanata** Niessl, Syn: Didymella ap. Sacc., Syll. I [546]. Lit: R 02 a [484], 04 k, 04 r.
Very common on dying twigs of *Rubus idaeus*. J. F. S. etc.

945. **Didymosphaeria diplospora** (Cooke) Rehm, Syll. I [710], Wt. II [420], Syn: Did. idaei Feltg., Syll. XVII [677].
On twigs of *Rubus idaeus*. J. Silkeborg ([1/12 06!]).

946. **Didymosphaeria trifolii** (Fuckel) Wt. II [427], Syn: Didymella trif. Sacc., Syll. I [554] & IX [461].
Trifolium pratense. S. København (O. R.).

947. **Didymosphaeria fenestrans** (Duby) Wt. II [426], Syll. IX [729], Syn: Gnomonia fen. Sacc. Syll. I [562], Gnom. epilobii Sacc., Syll. I [561], Didymella epilobii Sacc., Syll. I [556].

Ascis 120—140 μ × 10—12 μ; sporidiis hyalinis, monostichis, 1-septatis, medio constrictis, 19—25 μ × 10—12,5 μ.

On dead stems of *Chamaenerium angustifolium*. J. Viborg!, Utoft; B. Sandflugtskoven (Exc. $^{17}/_{5}$ 11).

948. **Didymosphaeria Fuckeliana** (Pass.) Sacc., Wt. II [426], Syn: Didymella Fuck. Sacc., Syll. I [556].

Ascis 64—80 μ × 6—8 μ; sporidiis hyalinis, 1-septatis, guttulatis 14—19 μ × 4—5,5 μ.

On dead stems of *Epilobium hirsutum*. S. Lyngby Mose! *Epilobium obscurum*. Falst. Bøtø ($^{23}/_{7}$ 98). *Chamaenerium angustifolium*. B. Sandflugtskoven (Exc. $^{17}/_{5}$ 11).

Rebentischia.

949. **Rebentischia pomiformis** Karsten, Syll. II [12].

On bark of *Fagus silvatica*. F. Skaarup.

Dilophia.

950. **Dilophia graminis** (Fuck.) Sacc., Syll. II [357], Wt. II [533], Dusksvamp (R 02 a [467]).

Its supposed conidial fructifications are Mastigosporium album and Dilophospora graminis.

Not uncommon on dead leaves of *Gramineae*.

Leptosphaeria (incl. *Metasphaeria*).

Numerous species which, no doubt, ought to be classed among more different genera have been classed under the extensive genus of Leptosphaeria. We see, for instance, that some species correspond to hyalin-spored Sphaerioideae, others to dark-spored Sphaerioideae, others again to Septoria and connected forms, and we also have a few sporadic examples of species corresponding to Mucedineae and Dematieae.

Leptosphaeria	lycopodina	corresp.	Phoma Creprini.
—	vagans	—	— tiliae.
—	rubella	—	— Grovei (see All. VI [277]).
—	doliolum	—	— doliolum (see K 88 b [9]).
—	conformis	—	— acuta.
—	rusci	—	Phyllosticta ruscicola.
—	sphyridiana	—	— sphyridiana.
—	helvetica	—	— helvetica.
—	vagabunda	—	Coniothyrium vagabundum (Sacc.).
—	castagnei	—	— castagnei (Fuckel).

Leptosphaeria coniothyrium corresp. Coniothyrium Fuckelii (Stewart 10 [387]).

— diplodiella — — diplodiella.
— epicalamia — Hendersonia luzulae.
— punctoidea — — asparagi.
— eustoma — — eustoma.
— arundinacea — — Fuckelii.
— caespitosa — Camarosporium aequivocum (Brefeld 91 [223]).
— arundinacea — Melanconium sphaerospermum (Niessl).
— tritici — Septoria tritici (see Frank Z. f. Pf. V [10]).
— phlogis — — phlogis (see Bos 99 [29]).
— ophiopogonis — — ophiopogonis (Saccardo).
— culmifida — — culmifida (Lind 07 c [276]).
— senecionis — Stagonospora senecionis (Fuckel).
— micropogonis — Rhabdospora narvisiana (Saccardo).
— asparagina — — asparagina (K 90 [29]).
— thalictri — Cercospora thalictri (see Bref. 91 [224]).
— napi — Alternaria brassicae (see R 02 a [472] & Ldau 08 [254]).

951. **Leptosphaeria corvina** (Rostrup)!, Syn: Metasphaeria corv. R 88 c. See tab. IV fig. 54.

On rotten feathers of *Corvus cornix*. S. Geelskov (O. R.), Boserup (Exc. $^{2}/_{10}$ 87).

952. **Leptosphaeria equiseti** Karst. Syll. II [81].

A very rare species, hitherto found only at Spitzbergen.

Equisetum fluviatile. S. Lille Hareskov ($^{19}/_{10}$ 84).

953. **Leptosphaeria marcyensis** (Peck) Sacc., Syll. II [80].

It is a true parasitical species, attacking the living plants and producing its perithecia in the dead leaves.

Lycopodium selago. J. Raabjerg Kirkesø. *Lycopodium annotinum*. J. Vindum Skov (! Exs. Vgr.).

954. **Leptosphaeria lycopodina** (Mont.) Sacc., Syll. II [81], Syn: Lept. Crepini (West.) de Not., Syll. II [79], Wt. II [441].

Lycopodium annotinum. J. Rold Skov (O. R.); S. Hornbæk Plantage (Toussieng), Tisvilde Hegn; B. Almindingen (E. W.). *Lycopodium chamaecyparissus*. B. Almindingen. *Lycopodium clavatum*. J. Tolne Bakker!, Sæby Gedebjerg, Grønning!; B. Almindingen.

955. **Leptosphaeria junci** (Oud.)!, Syn: Metasphaeria junci Sacc., Syll. II [177].

Juncus balticus. J. Gaardbogaard (O. R.).

956. **Leptosphaeria maritima** (C. & Plowr.) Sacc., Syll. II [73].
Juncus atricapillus. J. Agger.

957. **Leptosphaeria monilispora** (Fuckel) Sacc., Syll. II [79], Wt. II [460].
Ascis 125 μ × 15 μ; sporidiis 35 μ × 5—6 μ, 7—9-septatis.
Juncus squarrosus. J. Damsgaard near Viborg (3/5 04!).

958. **Leptosphaeria apogon** Sacc. & Speg., Syll. II [63], Wt. II [448].
Juncus squarrosus. Læsø (15/7 03!).

959. **Leptosphaeria scirpina** Wt. II [455], Syn: Metasphaeria scirp. Sacc., Syll. II [182].
On dead leaves of *Scirpus silvaticus.* F. Skaarupør (2/8 83).

960. **Leptosphaeria Sowerbyi** (Fuckel) Sacc., Syll. II [78], Syn: Lept. maculans (Sowerby) Karst., Wt. II [459] not Lept. mac. (Desm.) Ces., Sphaeria disseminata β paludosa Fries S. M. II [513].
On dead stems of *Scirpus lacustris.* S. Lystrup!, Sjælsø (O. R.), Utterslev Mose (May 03 O. R.).

961. **Leptosphaeria scirpina** Wt. II [454], Syn: Metasphaeria scirp. Sacc., Syll. II [182], Berlese 94 [145] c. icon.
Scirpus lacustris. S. Sjælsø, Langesø near Haraldsted.

962. **Leptosphaeria microscopica** Karsten, Syll. II [59], Syn: Lept. culmorum Awd., Wt. II [445].
Scirpus lacustris. S. Lystrup, Damhussøen (O. R.). *Festuca duriuscula.* J. Aalbæk (V. S.). *Glyceria aquatica.* S. Fredriksborg Badstue. *Aira caespitosa.* S. Søllerød (Octob. 89 O. R.). *Hordeum sativum.* S. Taastrup. *Secale cereale.* S. Tisvilde.

963. **Leptosphaeria occulta** spec. nov. See tab. III fig. 43.
Peritheciis sparsis, tectis, sub epidermide nidulantibus, globosis, in ostiolum conicum, obtusum, punctiformi-prominulum attenuatis, aterrimis, 250 μ diam., tenui-membranaceis. Ascis tereti-clavatis, basi noduloso-stipitatis, apice rotundatis et crasse tunicatis, paraphysatis, 60—68 μ × 11—13 μ, octosporis. Sporidiis di-tristichis, fusoideis, rectis vel curvulis, flavo-fuligineis, 36—40 μ × 4 μ, 5-septatis, ad septa non constrictis, loculo secundo leviter tumido.
On dead leaves of *Carex hirta.* S. Hornbæk Plantage (27/7 99).

964. **Leptosphaeria Michotii** (West.) Sacc., Syll. II [58], Wt. II [444].
Juncus squarrosus. F. Kirkeby Hede. *Carex canescens.* F. Kirkeby (19/7 83). *Dactylis glomerata.* S. Dronninggaard (O. R.).

965. **Leptosphaeria nigrans** (Desm.) Ces. & de Not., Syll. II [70], Wt. II [452].

Dactylis glomerata. J. Nebsager (July 91 O. R.); S. Ravneholmene (O. R.). *Calamagrostis epigejos.* S. Dronninggaard (O. R.). *Triticum repens.* J. Nebsager (O. R.); S. Jonstrup Vang (O. R.). *Hordeum silvaticum.* F. Kerteminde (Exc. 6/8 95).

966. **Leptosphaeria sparsa** (Fuckel) Sacc., Syll. II [77], Wt. II [457].
Dactylis glomerata. S. Eskemose Skov (O. R.). *Triticum caninum.* S. Hornbæk Plantage.

967. **Leptosphaeria culmifida** Karsten, Syn: Metasphaeria culm. Sacc., Syll. II [174].
Dactylis glomerata. J. Nebsager. *Molinia coerulea* & *Weingaertneria canescens.* F. Kirkeby ([19]/7 83). *Phleum pratense.* J. Horsens!.

968. **Leptosphaeria sabuletorum** (B. & Br.)!, Syn: Metasphaeria sab. Sacc., Syll. II [180].
Festuca arundinacea. S. Tokkekøb Hegn (May 91 O. R.), Flaskekroen (O. R.).

969. **Leptosphaeria recutita** (Fuckel)!, Syn: Metasphaeria rec. Sacc., Syll. II [176].
Glyceria aquatica. J. Viborg (Gad).

970. **Leptosphaeria phragmiticola** (Crouan) Sacc., Syll. II [87].
Arundo phragmites. S. Ruderhegn (Sept. 90 O. R.).

971. **Leptosphaeria anarithma** B. & Br., Syn: Metasphaeria an. Sacc., Syll. II [175].
On dead straws of grass; S. Dronninggaard (June 91 O. R.).

972. **Leptosphaeria culmifraga** (Fries) Ces. & de Not., Syll. II [75], Wt. II [456], Syn: Sphaeria culm. Fries S. M. II [510], Leptosphaeria herpotrichoides de Not., Syll. II [77], Wt. II [458] (see R 02 a [471]), Straabrækkende Støvkugle (H. 37 [870]), Knækkesyge (F. K. R. 07 a [300]), Halmbrækkersvampen (M. L. M. 08 [149]).
Is very common on Secale and was formerly considered a particularly pernicious parasite; of late years phytopathologists are inclined to attribute to Fusarium the damage for which Leptosphaeria culmifraga was formerly made responsible (see M. L. M. June 10). Its perithecia are found ripe in August (see M. L. M. 10 [311]).
Dactylis glomerata. J. Gaardbogaard (V. S.); S. Dronninggaard (O. R.), Flaskekroen (O. R.). *Bromus Benekeni.* S. Dronninggaard (O. R.). *Arundo phragmites.* S. Utterslev Mose (O. R.). *Phalaris arundinacea.* J. Nebsager (O. R.); F. Klingstrup. *Triticum sativum* & *Secale cereale.* Common.

973. **Leptosphaeria insignis** Karsten, Syll. II [71].
On dead leaves of *Hordeum arenarium.* S. Tisvilde (July 98 see R 99 a [276]).

974. **Leptosphaeria arundinacea** (Fries) Sacc., Syll. II [62], Wt. II [448], Syn: Sphaeria ar. Fries S. M. II [429].

On dead leaves of *Hordeum arenarium*. S. Tisvilde (R 99 a [275]), Gaunø; L. Billitse Klitter. *Arundo phragmites*. Læsø!.

975. **Leptosphaeria arenariae** (B. R. S.)!, Syn: Metasphaeria ar. B. R. & Sacc., Annal. myc. III.

On dead leaves of *Hordeum arenarium*. S. Tisvilde (July 98).

976. **Leptosphaeria tritici** (Garovaglio) Pass., Syll. II [62], R 97 e, 02 a [468] c. icon., Sortprik (R 96 n c. icon.).

This fungus occurred in great abundance especially in the neighbourhood of Copenhagen in 1894 and 1895, it almost disappeared in 1896 (see R 97 i), but reappeared abundantly in 1897. The damage caused by its attacks in 1895 was estimated at 1½ million Kroner only in the neighbourhood of Copenhagen (see K. H. 98 [105], R 97 j). Later on it has, however, been doubted whether it was this fungus which caused the disease or if it was only of secondary importance (see F. K. R. 09 [741] & M. L. M. July 11).

It has been found in association with a supposed corresponding conidial fructification of the formgenus of Septoria. It deserves to be noticed that it has never been found on Triticum in this country.

Common on leaves and sheaths of *Secale cereale, Hordeum sativum* f. *polystichum, tetrastichum, distichum*.

977. **Leptosphaeria eustoma** (Fries) Sacc., Syll. II [61], Wt. II [445], Syn: Sphaeria eustoma Fries El. II [109].

On old straw of *Secale cereale*. J. Nebsager (July 91 O. R.).

978. **Leptosphaeria nardi** (Fries) Ces., Syll. II [72], Wt. II [454], Syn: Sphaeria nardi Fries S. M. II [520].

Nardus stricta, F. Kirkeby Hede (19/7 83).

979. **Leptosphaeria acorella** Cooke, Syn: Metasphaeria ac. Berl. & Vogl., Syll. IX [841].

Acorus calamus. Fænø; S. Hellebæk.

980. **Leptosphaeria lacustris** (Fuckel) Wt. II [451], Syn: Metasphaerie lac. Sacc., Syll. II [173].

Typha latifolia. J. Nebsager (Aug. 91 O. R.). *Calamagrostis arenaria* & *Hordeum arenarium*. S. Tisvilde. *Secale cereale* common. *Phleum pratense*. F. Skaarup.

981. **Leptosphaeria culmicola** (Fries) Karsten, Syll. II [70], Wt. II [453], Syn: Sphaeria culm. Fries S. M. II [430], Metasphaeria Leersiae (Passer.) Sacc., Syll. II [173] see v. Höhn. 06 a.

Juncus squarrosus. J. Borris Hede (F. & W. 08). *Bromus erectus*. F. Skaarup. *Festuca arundinacea*. S. Flaskekroen (O. R.). *Festuca silvatica*. Moen Lilleskov. *Phalaris arundinacea*. L. Stensgaard Skov. *Triticum sativum*. F. Glorup. *Secale cereale*. F. Skaarup.

982. **Leptosphaeria littoralis** Sacc., Syll. II [78], Wt. II [458], Syn: Lept. ammophilae Rehm, Syll. IX [790], Wt. II [458], Lept. sabuletorum Sacc., Syll. II [180] (see Berlese 94 [79]).

Ascis cylindraceis 160—165 µ × 30—35 µ; sporidiis distichis, ellipsoideis, utrinque attenuatis, dilute fuscidulis, 6—7-septatis, constrictis, 45—55 µ × 15—16 µ.

In dead leaves of *Calamagrostis arenaria*. J. Skagen (O. R.), Uggerby!, Svinkløv!; B. Hammershus (Lindau 97). *Arundo phragmites*. S. Hornbæk. *Zea mays*. S. Lyngby Forsøgsmark (K. H.). *Hordeum arenarium*. J. Skagen (O. R.); S. Tisvilde.

983. **Leptosphaeria Fuckelii** Niessl, Syll. II [71] & IX [796], Wt. II [453].

On dead leaves of *Calamagrostis arenaria*. S. Tisvilde. *Calamagrostis arenaria* × *epigejos*. Falst. Bøtø (Exc. 23/7 98). *Phalaris arundinacea*. J. Nebsager (O. R.); S. Utterslev Mose (O. R.). *Hordeum arenarium*. S. Tisvilde (see R 99 a [275]).

984. **Leptosphaeria graminum** Sacc., Wt. II [446], Syn: Metasphaeria gram. Sacc., Syll. II [174].

On dead leaves of *Calamagrostis epigejos*. S. Basnæs Skov (Aug. 77 P. N.).

985. **Leptosphaeria licatensis** Sacc., Syll. II [70].

Typha latifolia. S. Ørholm (June 91 O. R.).

986. **Leptosphaeria typharum** (Desm.) Karsten., Syll. II [64], Wt. [450].

Thypha latifolia. J. Skive Aa!; F. Aabymark.

987. **Leptosphaeria Bellynckii** (West.) Awd., Wt. II [452], Syn: Metasphaeria Bel. Sacc., Syll. II [178].

On dead leaves of *Convallaria majalis*. J. Langaa (11/4 03!).

988. **Leptosphaeria rusci** (Wallr.) Sacc., Syll. II [74], Wt. II [456].

Ruscus aculeatus. S. Landbohøjskolens Have. *Ruscus hypophyllus*. S. Botanisk Have.

989. **Leptosphaeria coniformis** (Fries) Schroeter 08 [369], Syn: Sphaeria. con. Fries S. M. II [508], Leptosphaeria acuta (Moug. & Nestl.) Karst., Syll. II [41], Wt. II [481], Spids Sporekugle (R 69 [74]).

Common on dead stems of *Urtica dioeca*, February—May.

990. **Leptosphaeria rubicunda** Rehm, Syll. II [25], Wt. II [476].

On dead stems of *Rumex acetosa*. S. Ordrup Mose, May.

991. **Leptosphaeria salebricosa** B. R. Sacc., Syll. IX [783].

On dead leaves of *Stellaria graminea*. J. Viborg Krat (26/10 02!).

992. **Leptosphaeria leptospora** (de Not.) Sacc., Syll. II [16].

Dianthus superbus. S. Landbohøjskolens Have; Møen Ulfshale.

993. **Leptosphaeria dianthi** (Rost.)!, Syn: Metasphaeria di. Rostrup 05 b [311].

Peritheciis sparsis, primo epidermide tectis, sphaeroideis, atris, 0,3 mm latis; ascis tereti-clavulatis, breve stipitatis, paraphysatis, 70 µ l., 12—13 µ cr.; sporidiis oblique monostichis, oblongo-fusoideis, 4-septatis, ad septa constrictis, 24—28 µ l., 7—8 µ cr., hyalinis, loculis guttulatis.

On stems of *Dianthus superbus*. S. Flaskekroen ($^{25}/_{8}$).

994. **Leptosphaeria napi** (Fuckel) Sacc., Syll. II [45], Wt. II [484], Syn: Lept. exitiosa Rostrup 02 a [472].

Common on leaves and siliques of *Brassica*.

995. **Leptosphaeria hippophaës** (Fabre) Rostrup 02 a [473], Syn: Melanomma hip. Fabre, Syll. II [108], Wt. II [243].

A true parasite, attacking the branches of *Hippophaës rhamnoides* and killing them (R 89 i [233]). Møen Vitmundsnakke ($^{16}/_{8}$ 1888).

996. **Leptosphaeria corticola** Fuckel, Syn: Metasphaeria cort. Sacc., Syll. II [166].

Frangula alnus. S. Tokkekøb Hegn (O. R.). *Prunus spinosa*. S. Hjortenæs near Sorø ($^{11}/_{4}$ 82 V. Sarauw). *Lonicera tataricum*. L. Halsted.

997. **Leptosphaeria endiusae** (Fuckel) Sacc., Syll. II [57], Wt. II [489].

Vicia orobus (hosp. nov.). J. Mariager (Exc. $^{20}/_{7}$ 07), Skrikes Plantage ($^{18}/_{6}$ 04!), Navntoft!.

998. **Leptosphaeria multiseptata** Wt. II [482], Syll. II [LVII & IX [768].

On dead stems of *Lathyrus silvester*. J. Horsens ($^{17}/_{5}$ 02!).

999. **Leptosphaeria fusispora** Niessl, Syll. II [18], Wt. II [462].

Ononis spinosa. F. Skaarupør. March.

1000. **Leptosphaeria agnita** (Desm.) de Not., Syll. II [40], Wt. II [480].

Peritheciis dense gregariis, hinc inde lineatim-subaggregatis, innato-erumpentibus, globosis, breve papillatis, nigris, vix 500 µ diametro; ascis cylindraceo-clavatis, in stipitem attenuatis, 120—150 µ × 12—13 µ, paraphysibus filiformibus obvallatis, octosporis; sporidiis distichis, elongatis, utrinque rotundatis, leniter curvatis, 5—6-septatis, medio constrictis, loculo subintermedio paulo crassiore, pallide luteo-fuscis, 42—52 (35—62) µ × 6—8 (—9) µ.

On dead stems of *Epilobium hirsutum*. S. Bidstrup!. *Eupatorium cannabinum*. F. Skaarupør ($^{23}/_{7}$ 83); S. Fredrikssund!, Dyrehaven (O. R.); Møen Maglevandsfaldet!.

1001. **Leptosphaeria salicaria** Pass., Syll. II [23].

Lythrum salicaria. F. Skaarup.

1002. **Leptosphaeria Fiedleri** (Niessl) Sacc., Wt. II [473], Metasphaeria Fied. Sacc., Syll. II [165].

Cornus sanguinea. S. København (January 05 O. R.).

1003. **Leptosphaeria hederae** (Fries) Wt. II [487], Syn: Sphaeria hed. Sowerby, Fries S. M. II [521], Metasphaeria hed. Sacc.

On leaves of *Hedera helix*. J. Stensballesund ($^{3}/_{11}$ 01!).

1004. **Leptosphaeria libanotidis** (Fuckel) Niessl, Syll. II [16], Wt. II [462].

On dead stems of *Pastinaca sativa*. S. Glostrup.

1005. **Leptosphaeria doliolum** (Fries) Ces. & de Not., Syll. II [14], Wt. II [460], Sphaeria dol. Pers., Fries S. M. II [460].

On dead stems of *Sium latifolium* (hosp. nov.). F. Skaarup ($^{30}/_{7}$ 83). *Daucus carota*. S. Klampenborg (O. R.). *Campanula rotundifolia*. J. Knivholt!, Viborg!, Horsens!. *Lactuca muralis*. F. Selleberg (O. R.).

1006. **Leptosphaeria suffulta** (Fries) Niessl, Syll. II [14], Wt. II [461], Syn: Sphaeria suff. Nees, Fries S. M. II [508].

Melampyrum pratense. J. Viborg ($^{26}/_{6}$ 06!).

1007. **Leptosphaeria Plemeliana** Niessl, Syll. II [49], Wt. II [486].

Campanula rotundifolia. F. Lundeborg ($^{14}/_{7}$ 83 Johanson).

1008. **Leptosphaeria vagabunda** Sacc., Syll. II [31], Wt. II [465].

Rostrup considers it parasitical (R 96 b, 02 a [473], 06 l) and makes it responsible for the fading away of a number of bushes of Ribes grossularia.

Ribes grossularia. S. Eriksholm ($^{30}/_{2}$ 96 Tjørnelund). *Lonicera periclymenum*. J. Krabbesholm Skov!.

1009. **Leptosphaeria sambuci** Fautrey, Syll. XI [322].

Sambucus racemosa. S. Charlottenlund.

1010. **Leptosphaeria dumetorum** Niessl, Syll. II [15], Wt. II [461].

On dead stems of *Cirsium arvense*. L. Stensgaard, July.

1011. **Leptosphaeria dolioloides** (Awd.) Karsten, Syll. II [44], Wt. II [483], Syn: Lept. Thielensii (West.) Sacc., Syll. II [46], Lept. conii R 05 b [311].

Centaurea jacea. S. Dronninggaard (June 91 O. R.). *Tanacetum vulgare*. S. Tisvilde, Hørsholm!, Køge (R 05 b [311] not "Conium").

1012. **Leptosphaeria helminthospora** Ces. & de Not., Syll. II [33], Wt. II [479].

Artemisia campestris. S. Hornbæk, Tisvilde (June 98).

1013. **Leptosphaeria derasa** (B. & Br.) Awd., Syll. II [41], Wt. II [481].

Senecio Jacobaea. J. Aarhus (P. L.).

1014. **Leptosphaeria planiuscula** (Riess) Ces. & de Not., Syll. II [32], Wt. II [474].

Solidago virgaurea. J. Viborg!; Fænø. *Achillea millefolium*. S. Flaskekroen (O. R.).

1015. **Leptosphaeria modesta** (Desm.) Awd., Syll. II [39], Wt. II [471].

Solidago virgaurea. J. Boller Krat near Viborg ([11]/9 06!).

1016. **Leptosphaeria ogilviensis** (B. & Br.) Ces. & de Not., Syll. II [34], Wt. II [476], Syn: Phaeoderris rubellula (Desm.) v. Höhnel (07 c).

On dead stems of *Arnica montana*. J. Tolne Bakker ([23]/7 02!).

Ophiobolus.

The conidial forms corresponding to the species of Ophiobolus have been very little examined as yet. Mangin (99) says — dubiously however — that Ophiobolus graminis corresponds to Coniothyrium rhizophilum, and Ophiobolus herpotrichus is stated to correspond to Hendersonia herpotricha.

Saccardo supposes that two different conidial forms, Phoma rudis and Septoria rudis, belong to Ophiobolus rudis, and other observations (Tul. Carp. II [257]) might also imply this.

1017. **Ophiobolus herpotrichus** (Fries) Sacc., Syll. II [352], Wt. II [524], Syn: Sphaeria herp. Fries S. M. II [504], Ophiobolus graminis Sacc., Syll. II [349], Wt. II [523], Fodsyge, Hvededræbersvamp (M. L. M. 10 [310] & Juni 10.), Lit: R 02 a [474], Mangin 99 c. icon.

Its perithecia are common in autumn on the lower part of leaves of grass and on stubble of the cereals. It attacks the gramineae in summer causing the straws to break at the base (see R 00 a). Especially in the year 1909 this fungus caused great damage; on later investigations it has, however, been proved that this fungus might not be responsible for the whole damage, probably species of Fusarium have been more guilty. The perithecia does not ripen until spring. Mangin supposes Coniosporium rhizophilum (Preuss) Sacc. to be the conidial fructification of this species.

Very common on *Hordeum sativum*, *Triticum sativum* & *repens*, rare on *Secale cereale*.

1018. **Ophiobolus culmorum** (Crouan) Sacc., Syll. II [350].

Bromus Benekeni (hosp. nov.). S. Dronninggaard (June 91 O. R.).

1019. **Ophiobolus erythrosporus** (Riess) Wt. II [525], Syn: Oph. urticae Sacc., Syll. II [338].

On dead stems of *Urtica dioeca*.

Schumacher has found it in Seeland. Specimens are still contained in his

herbarium under the name of Sphaeria aucta. It may, no doubt, be found again on closer investigation.

1020. **Ophiobolus nigrificans** (Cooke) Sacc., Syll. II [343].
On dead stems of *Brassica*. J. Nebsager (July 91 O. R.).

1021. **Ophiobolus Cesatianus** (Mont.) Sacc., Syll. II [339], Wt. II [526].
On dead stems of *Silene venosa*. J. Randrup near Viborg ([31/5] 04!).

1022. **Ophiobolus fruticum** (Rob.) Sacc., Syll. II [347], Wt. II [532].
Ononis spinosa. J. Nebsager (O. R.); F. Skaarupør, Ulkendal; S. Skelskør (Exc. [23/6] 07). *Ononis arvensis*. S. Flaskekroen (O. R.).

1023. **Ophiobolus rubellus** (Fries)!, Syn: Sphaeria rubella Fries S. M. II [506], Sphaeria acuta Schum. no 1279 (according to specimens in Schumacher's herbarium) non Moug. & Nestl., Fl. D. tab. 2040 fig. 3, Ophiobolus porphyrogonus (Tode) Sacc., Syll. II [338], Wt. II [525].
On dead stems of *Malva alcea*. L. Hellinge. *Conium maculatum*. S. Køge. *Anthriscus silvester*. J. Stensbæk near Sindal!. *Heracleum sphondylium*. J. Aarhus (P. L.). *Solanum tuberosum* ("Ophiob. fruticum var. solani" Feltg.), common. *Galeopsis tetrahit*. J. Nebsager (O. R.). *Artemisia vulgaris*. F. Svenborg!.

1024. **Ophiobolus vulgaris** Sacc., Syll. II [338].
On dead stems of *Pedicularis palustris*. S. Gammelmose (R 06 cc [357]).

1025. **Ophiobolus tenellus** (Awd.) Sacc., Syll. II [346], Wt. II [530], Syn: Oph. galii-veri Fautrey, Syll. XI [351].
June-August. On dead stems of *Chelidonium majus*. J. Lerbæk near Frederikshavn!; S. Tisvilde (O. R.). *Plantago lanceolata*. B. Svaneke! *Galium mollugo*. J. Nebsager (July 91 O. R.).

1026. **Ophiobolus compressus** Rehm. Syll. II [340], Wt. II [529].
Artemisia campestris. S. Fredrikssund ([16/6] 09!).

1027. **Ophiobolus bardanae** (Fuckel) Rehm, Syll. II [341], Wt. II [527].
On dead stems of *Lappa*. J. Nebsager (July 91 O. R.).

1028. **Ophiobolus cirsii** (Karsten) Sacc., Syll. II [341].
Cirsium arvense. S. Dyrehaven (April 89 O. R.).

1029. **Ophiobolus acuminatus** (Fries) Duby, Syll. II [340], Wt. II [527], Syn: Sphaeria ac. Fries S. M. II [507], Ophiobolus clavisporus Pass., Syll. IX [925].
Serratula tinctoria. S. Flaskekroen (O. R.). *Carduus crispus*. S. Køge. *Cirsium arvense*. J. Skive!, Ørslevkloster!; F. Skaarup (May 72), Lundeborg; Amager Fælled (O. R.). *Cirsium oleraceum*. S. Ordrup Mose (O. R.). *Cirsium palustre*. J. Batum!, Nebsager (O. R.); F. Selleberg (O. R.); S. Dronninggaard, København (V. Sarauw). *Cirsium lanceolatum*. J. Aalbæk!, Tamdrup!. *Centaurea scabiosa*. F. Skaarup. *Tragopogon pratensis*. J. Horsens!.

Pyrenophora.

1030. **Pyrenophora phaeocomes** (Fries) Fuckel, Syll. II [278], Wt. II [521], Syn: Sphaeria phaeoc. Reb., Fries S. M. II [515].

June. In dead leaves of *Holcus mollis*. J. Sødal!, Rindsholm ([26]/8 85).

1031. **Pyrenophora relicina** Fuckel, Syll. II [278], Wt. II [520].

Dactylis glomerata. J. Skive!. *Secale cereale*. J. Hald!, Nebsager (O. R.); F. Skaarup. *Briza media* (hosp. nov.). F. Klingstrup Mose ([26]/9 82).

1032. **Pyrenophora calvescens** (Fries) Sacc., Syll. II [279], Syn: Sphaeria calv. Fries Sclerom. Suec. no 401.

Cakile maritima. S. Køge.

Pleospora.

The conidial forms of fructification corresponding to the species of Pleospora are — as is also the case with the genus of Leptosphaeria — to be sought in many different formgenera of fungi imperfecti; still, the greater part seem to belong to Dematiaceae if we are justified in drawing conclusions from the few examples which are as yet known:

Pleospora	petiolorum	corresp. to	Phoma petiolorum (conf. Fuckel).
—	penicillus	—	— penicillatum (conf. Fuckel).
—	albicans	—	Phomopsis albicans (see Prillieux 96 [82]).
—	dianthi	—	Ascochyta dianthi (Fuckel).
—	Passeriniana	—	Camarosporium poterii.
—	microspora	—	— microsporum (Syll. II [265]).
—	avenae	—	Helminthosporium avenae (see Diedicke 03).
—	bromi	—	— bromi (see Diedicke 03).
—	graminea	—	— gram. (see Died. 03 & Noack 05).
—	teres	—	— teres (see Died. 03 & Noack 05).
—	herniariae	—	— herniariae (see Fuckel).
—	trichostoma	—	Alternaria trichostoma (see Diedicke & Noack).
—	infectoria	—	— tenuis (see Berlese 00 [11]).
—	pellita	—	Dendryphium penicillatum (Tul. Carp. II [268]).

Pleospora	calvescens	corresp. to	Dendryphium	comosum (Tul.).
—	conglutinata	—	Clasterosporium	glomerulosum (see Höhn. 09).
—	scirpicola	—	—	scirpicola.
—	putrefasciens	—	—	putrefasciens (Frank).
—	hesperidearum	—	Sporodesmium	piriforme.
—	herbarum	—	Macrosporium	commune (Brefeld).

1033. **Pleospora lycopodii** spec. nov. See tab. IV fig. 44.

Peritheciis in matrice sparsis, subglobosis, glabris, 250 μ diam., depressis, atris, coriaceis, obtuse papillatis; ascis cylindraceo-clavatis, crasse tunicatis, brevissime stipitatis, 72—76 μ × 16—18 μ, octosporis, aparaphysatis; sporidiis distichis, ellipsoideis, horizontaliter 3—5-septatis, verticaliter imperfecte 1-septatis, ad septa constrictis, 24—26 μ × 7—9 μ, melleo-fuligineis. Quoque adest st. pycnid. Coniothyrium sistens; sporidiis 3—4 μ diam.

In dead leaves and stems of *Lycopodium clavatum*. B. Nexø ($^{3}/_{7}$ 85).

1034. **Pleospora maritima** Rehm, Syll. XIV [600].

Peritheciis majusculis, 360—400 μ diam., collabescendo concavis; ascis clavatis 160 μ × 28—32 μ; sporidiis flavis 36—46 μ × 15—17 μ, 5—7 septatis, in longitudine 1-septatis, strato gelatinoso obvolutis.

On dead stems of *Triglochin maritimum*, Am. Kastrup ($^{2}/_{5}$ 11!).

1035. **Pleospora triglochinis** Har. & Bres. Syll. IX [878], ? Syn: Pl. Dietziana Hazsl., Syll. XIV [600].

On dead stems of *Triglochin palustre*. F. Svenborg; S. Ordrup Mose (O. R.), Hvalsø.

1036. **Pleospora rubicunda** Niessl, Syll. II [252], Wt. II [507].

Juncus effusus. S. Gammelmose (R 06 cc).

1037. **Pleospora scirpicola** (Fries) Karsten, Syll. II [265], Wt. II [496], Sphaeria scirp. Fries S. M. II [510].

On dead stems of *Scirpus lacustris*. S. Sjælsø (O. R.), Ermelunden (V. Sarauw), Utterslev Mose (O. R.), Roskilde (Thomsen), Tjustrup Sø.

1038. **Pleospora vagans** Niessl, Syll. II [267], Wt. II [495].

Scirpus lacustris. S. Lystrup!. *Carex hirta*. ("var: arenaria Niessl".) S. Hornbæk Plantage. *Bromus Benekeni*. S. Dronninggaard (O. R.). *Dactylis glomerata*. J. Nebsager (O. R.); S. Tokkekøb Hegn (O. R.), Eskemose (O. R.), Aasevang (O. R.). *Calamagrostis arundinacea*. J. Silkeborg ($^{13}/_{9}$ 85). *Calamagrostis epigejos* ("var: pusilla Niessl"). J. Tolne!. *Cynosurus cristatus* (hosp. nov.). J. Fredrikshavn (V. S.). *Hordeum arenarium* ("var: arenaria Niessl"). J. Hvidbjerg; S. Tisvilde (R 99 a [276]), Køge.

1039. **Pleospora punctiformis** Niessl. Syll. II [271], Wt. II [499].
On straws. S. Flaskekroen (O. R. May 03).

1040. **Pleospora discors** (Mont.) Ces. & de Not., Syll. II [270], Wt. II [498].
Peritheciis 400 μ diam.; ascis cylindraceo-clavatis 116—144 μ × 28—36 μ; sporidiis utrinque obtusis, transversim 7-septatis, medio constrictis, longitudinaliter 1—3 sept., 36—40 μ × 14—16 μ, fusco-melleis, strato gelatinoso obvolutis.
On dead leaves and stems of *Koeleria glauca* (hosp. nov.). J. Tversted Plantage. *Festuca duriuscula*. F. Kerteminde. *Hierochloa odorata* (hosp. nov.) S. Ordrup Mose (May 1854 Joh. Lge).

1041. **Pleospora pyrenophoroides** Sacc., Syll. II [267].
On dead leaves of *Phleum arenarium*. S. Lynæs ($^{30}/_{7}$ 90).

1042. **Pleospora abscondita** Sacc. & Roum., Syll. II [270], Wt. II [499].
Arundo phragmites. S. Ørholm (June 91 O. R.).

1043. **Pleospora typhicola** (Cooke) Sacc., Syll. II [264], Wt. II [495].
Hordeum arenarium. S. Jægerkroen ($^{10}/_{6}$ 11!).

1044. **Pleospora microspora** Niessl, Syll. II [264], Wt. II [497].
Ascis clavatis 80—100 μ × 10—12 μ; sporidiis oblique monostichis, 5-septatis, in longitudine imperfecte uniseptatis, 16—20 μ × 8—8,5 μ.
Avena sativa. J. Krabbesholm Mark ($^{4}/_{5}$ 01!).

1045. **Pleospora typhicola** (Cooke) Sacc., Syll. II [264], Wt. II [495].
On dead leaves of *Typha latifolia*. F. Aabymark ($^{23}/_{7}$ 83).

1046. **Pleospora infectoria** Fuckel, Syll. II [265], Wt. II [496].
Dactylis glomerata. J. Stensballegaard!; F. Skaarup ($^{11}/_{4}$ 70); S. Utterslev Mose (O. R.). *Festuca arundinacea*. S. Flaskekroen (O. R.). *Molinia coerulea*. J. Utoft Plantage. *Calamagrostis arenaria*. J. Lønstrup; S. Tisvilde (R 99 a [275]). *Hordeum sativum*. F. Skaarup. *Secale cereale*. J. Blokhus (Gad), Horsens!; S. Ørsløv (P. N.). *Triticum sativum*. L. Stensgaard. *Triticum caninum* (hosp. nov.). J. Gaardbosø.

1047. **Pleospora vulgaris** Niessl, Syll. II [243], Wt. II [502].
Cynosurus cristatus. J. Viborg!. *Dianthus caryophyllus*. S. Landbohøjskolens Have. *Saponaria officinalis*. S. Salsbjerggaard. *Eryngium maritimum*. Læsø! *Ribes grossularia*. F. Odense (Ibsen); S. Stavnsholt!. *Solanum tuberosum*. J. Horsens. *Limonium vulgare*. S. Skelskør (Exc. $^{23}/_{6}$ 07). *Sonchus paluster*. F. Bjørnemose. *Gnaphalium arenarium*. S. Hornbæk. *Hypochaeris radicata*. J. Horsens!.

1048. **Pleospora media** Niessl, Syll. II [244], Wt. II [503].
Arabis hirsuta. J. Tannishus! *Centaurea scabiosa*. S. Helene Kilde.

1049. **Pleospora herbarum** (Fries) Rabenhorst, Syll. II [247], Wt. II [504] incl. Pleosp. allii (Rbh.) Ces. & de Not., Syll. II [268], Pleosp. asparagi Rbh., Syll. II [268], Pleosp. meliloti Rbh., Syll. II [246], Sphaeria herbarum Pers., Fries S. M. II [511], Sph. pisi Fries S. M. II [509], Sph. papaveris Schum no. 1271.

Very common on dead parts of many species of Monocotyledones and Dicotyledones. Noticed on: *Allium vineale, fistulosum, oleraceum, Asparagus officinalis, Liparis Loeselii* (hosp. nov.). *Rumex, Cerastium caespitosum* & *semidecandrum, Sagina stricta* & *nodosa, Scleranthus perennis, Silene Behenis, Melandrium viscosum* & *album, Dianthus deltoides* & *armeria, Pulsatilla pratensis, Papaver* (stems and fruit), *Chelidonium majus, Glaucium luteum, Isatis tinctoria, Arabis hirsuta, Reseda luteola, Linum catharticum, Sedum acre, Parnassia palustris, Potentilla erecta* & *opaca, Sanguisorba, Astragalus glycyphyllus, Anthyllis vulneraria, Vicia biennis, Lathyrus maritimus, Pisum sativum, Melilotus, Trifolium, Medicago sativa, Cytisus* (pods), *Ulex europaeus* (leaves and pods), *Oenothera biennis, Eryngium, Anthriscus silvester, Rhododendron, Trientalis europaeus, Statice armeria, Solanum tuberosum, Scrophularia nodosa, Plantago maritima* & *media, Galeopsis, Lamium galeobdolon, Fraxinus excelsior* (on the fruit), *Gentiana campestris, Campanula, Dipsacus pilosus* & *silvester, Cirsium arvense* & *palustre, Carlina vulgaris, Artemisia, Chrysanthemum, Matricaria, Aster tripolium, Arnica.*

1050. **Pleospora fagi** Lind 07 c [274] c. icon.
On fallen leaves of Fagus silvatica. J. Viborg ($^{31}/_{10}$ 05!).

1051. **Pleospora herniariae** Fuckel, Syll. II [253], Wt. II [506].
On living leaves of *Herniaria glabra.* S. Fredriksværk (E. W.).

1052. **Pleospora dianthi** de Not., Syll. II [250], Wt. II [506].
On dead stems of *Viscaria viscosa.* J. Dommerby ($^{21}/_{6}$ 02!).

1053. **Pleospora salsolae** Fuckel, Syll. II [248], Wt. II [505].
Salsola kali. Lang. Stensgaard.

1054. **Pleospora salicorniae** Dangeard, Syll. IX [891].
Salicornia herbacea. Fanø (E. W. 06 [155] c. icon.); S. Flaskekroen (Raunkiær)! Falst. Grønsund.

1055. **Pleospora oligomera** Sacc. & Speg., Syll. II [241].
Atriplex litorale. Thurø. July.

1056. **Pleospora orbicularis** Awd., Syll. II [255], Wt. II [508].
Berberis vulgaris. J. Skive (! $^{21}/_{5}$ 03).

1057. **Pleospora rubicola** Sydow, Syll. XVI [546].
Hitherto only found a single time near Berlin.
On decorticated branches of *Rubus idaeus.* S. Skjelskør ($^{8}/_{6}$ 09!).

1058. **Pleospora chlamydospora** Sacc., Syll. II [249].
Anthyllis vulneraria. S. København (January 88 O. R.).

1059. **Pleospora Gilletiana** Sacc., Syll. II [256].

Sarothamnus scoparius. J. Gjøddinggaard. *Ulex europaeus.* J. Gaardbogaard, Linaa Vesterskov; F. Vresen.

Massariaceae.

Massaria.

As to the species of Massaria the corresponding forms of conidial fructification which are often associated with the ascigerous stage are known with almost absolute certainty. They are classified under the dark-spored Sphaerioideae or under the dark-spored Melanconieae.

Massaria macrospora	corresp. to	Diplodia faginea.
Massariella vibratilis	—	— cerasorum (Fuckel).
Massaria ulmi	—	Macrophoma ulmi & Macrodiplodia ulmi.
Massariella Curreyi	—	Sphaeropsis olivacea & Macrodiplodia Curreyi.
Massaria hirta	—	Chaetodiplodia hirta & Hendersonia hirta.
— carpini	—	Hendersonia carpini (Fuckel).
— carpinicola	—	— carpinicola.
— platani	—	— Desmazierii (Wt. II [548]).
— loricata	—	— piriformis.
— foedans	—	— ulmi.
Pleomassaria siparia	—	Prosthemium betulinum (Tul. & Bref.).
— varians	—	Camarosporium lycii.
Massaria loricata	—	Stilbospora Kickxii.
— macrosperma	—	Scolecosporium fagi.
— marginata	—	Monochaetia seiridioides (Fuckel).
— pupula	—	Steganosporium piriforme (Tul. Carp. II [225]).
— Niessliana	—	— Fautreyi.
— argus	—	— muricatum (Syn: Hendersonia polycystis see Tul. Carp. II [227]).

1060. **Massaria argus** (B. & Br.) Fresenius, Syll. II [7], Wt. II [545].

Alnus glutinosa. S. Soro Philosophgang ($^9/_4$ 82 V. Sarauw).

1061. **Massaria foedans** (Fries) Fuckel, Syll. II [2], Wt. II [543], Syn: Sphaeria f. Fries S. M. II [480].

Ulmus. S. Soro Philosophgang ($^9/_4$ 82 V. Sarauw) *Populus.* J. Constantinsborg (F. & W. 09 [315]).

1062. **Massaria macrospora** (Desm.) Sacc., Syll. II [10].
Fagus silvatica. J. Krabbesholm Skov!, Aarhus (P. L.); F. Klingstrup Storskov; S. Dyrehaven ($^{4}/_{2}$ 82 V. Sarauw).

1063. **Massaria loricata** Tul., Syll. II [3], Wt. II [543], Syn: Mas. fagi Fuckel, Syll. II [6].
Fagus silvatica. S. Dyrehaven ($^{20}/_{3}$ 82 V. Sarauw).

1064. **Massaria eburnea** Tul., Wt. II [540] c. icon., Syn: Massarina eb. Sacc., Syll. II [153].
Fagus silvatica. S. Ruderhegn. May.

1065. **Massaria pupula** (Fries) Tul., Syll. II [3], Wt. II [544] c. icon., Syn: Sphaeria pup. Fries S. M. II [484].
On twigs of *Acer pseudoplatanus*. S. København ($^{8}/_{3}$ 82 V. Sarauw).

1066. **Massaria conspurcata** (Wallr.) Sacc., Syll. II [782] & IX [760], Wt. II [551], Syn: ? Sphaeria favacea β conspurcata Fries S. M. II [355].
On corticated branches of *Prunus padus*. J. Aarhus (April 05 & March 06 P. L.).

Massariella.

1067. **Massariella bufonia** (B. & Br.) Speg., Syll. I [716], Wt. II [538].
On branches of *Quercus robur*. J. Marselisborg Skov ($^{30}/_{12}$ 07, F. & W. 09 [315]).

1068. **Massariella Curreyi** (Tul.) Sacc., Syll. I [717], Wt. II [539].
On branches of *Tilia europaea*. J. Fredrikshavn!; F. Skaarup.

1069. **Massariella vibratilis** (Fuckel) Sacc., Syll. I [716], Wt. II [538] c. icon.
Cerasus avium. J. Moesgaard near Aarhus ($^{3}/_{1}$ 09, F. & W. 09 [315]).

Pleomassaria.

1070. **Pleomassaria siparia** (B. & Br.) Tul., Syll. II [239], Wt. II [553].
Betula verrucosa. J. Constantinsborg ($^{27}/_{12}$ 07, F. & W. 09 [316]).

1071. **Pleomassaria rhodostoma** (Fries) Wt. II [552] c. icon., Syn: Sphaeria rhod. Fries S. M. II [552], Karstenula rhod. Sacc., Syll. II [240].
Rhamnus cathartica. S. Charlottenlund ($^{29}/_{1}$ 82 V. Sarauw).

Gnomoniaceae.

Most species of Gnomoniaceae and Clypeosphaeriaceae are of great mutual congruity as far as concerns structure and also in biological respect. The greater part of them produce a conidial form of the type

of Gloeosporium. According to Plowright's experiments (79) Mamiania fimbriata sometimes seems to propagate by its ascospores only. There are however three species excepted from this rule viz:

Gnomonia erythrostoma corresp. Septoria pallens (Frank & Bref. X).
Phomatospora Berkeleyi — Phoma Berkeleyi (Saccardo).
Anthostomella lugubris — Sphaeropsis lugubris (Saccardo)

but all other better examined species correspond to forms of Melanconieae or Leptostromaceae.

Cryptoderis propinqua corresp. Gloeosporium propinquum (Vleugel 11 [329]).
— bottnica — — bottnicum (Vleugel 11 [327]).
Mamiania fimbriata — — carpini.
— coryli — Leptothyrium corylinum.
Sphaerognomonia carpinea — Gloeosporium Robergii (see Jaap 10 b [146]).
Gnomonia leptostyla — — juglandis & Marssonina juglandis.
— vulgaris — — coryli.
— tubiformis — — cylindrospermum (see Klebahn 08 b).
— veneta — — nervisequum (see Klebahn).
— setacea f. alni — — suecicum (see Vleugel 11 [330]).
— setacea — Discosia clypeata.
— cerastis — Gloeosporium sp. (see Bref. X [234]).
— padicola — — padi (see Kleb. 08 b & Potebnia).
— rosae — Marssonina rosae (see Jaap 10 b [145]).
— tubiformis — Gloeosporium alneum.
Hypospila groenlandica — — Vleugelianum (see Vleugel 11 [345]).
Linospora ceuthocarpa — — tremulae.
— caprea — — Septogloeum salicinum.

Phomatospora.

1072. **Phomatospora therophila** (Desm.) Sacc., Syll. I [433], Wt. II [574]. On dead stems of *Juncus effusus*. S. Lersoen (Aug. 08 O. R.).

1073. **Phomatospora arenaria** Sacc. Bom. Rouss., Syll. XI [291]. See tab. IV figg. 45—46.

Peritheciis lenticulari-globosis, immersis, ad foliorum longitudinem seriatis, membranaceis, tenuibus, collo brevissimo, ostiolis superficialibus, nigris, 500 μ diam. Ascis numerosis, tenuibus, cylindricis, basi longiuscule attenuato-stipatis, sursum rotundatis, crasse tunicatis, 100—120 μ × 6—8 μ, aparaphysatis, octosporis; sporidiis monostichis, ellipsoideis, hyalinis, guttulatis, 18—20 μ × 5 μ.

On dead leaves of *Hordeum arenarium*. J. Haastrup Strand (July 02!).

1074. **Phomatospora apiculata** (Kalchbrenner) Rostrup 97 m [47] & 02 a [484], Syn: Sphaeria ap. Kalchb., Physalospora ap. Sacc., Syll. II [XXXIV] & IX [592].

Perithecia membranacea, tecta v. erumpentia, dense gregaria; asci fusoidei, apice cuspidata, longit. 60—65 μ × 7—8 μ. Sporae oblongae, initio granulosae dein utrinque 1-guttulatae, long. 16—19 μ, crassit 5—6 μ.

On stems and branches of *Salix daphnoides*. S. Lersøen ([30]/5 96 & [1]/6 97).

Ditopella.

1075. **Ditopella ditopa** (Fries) Schroeter 08 [388], Syn: Sphaeria dit. Fries S. M. II [481], Ditopella fusispora de Not., Syll. I [450] & IX [602], Wt. II [574].

Alnus glutinosa. J. Marselisborg Skov (Ø. W. & P. L.); S. Tokkekøb Hegn (O. R.), Dyrehaven ([12]/3 82 V. Sarauw), Lyngby (F. & W. 09 [314]). *Alnus incana*. J. Undallslund!.

Mammiania.

1076. **Mammiania fimbriata** (Fries) Ces. & de Not., Wt. II [669], Syn: Sphaeria fimb. Pers., Fries S. M. II [436], Gnomoniella fimb. Sacc., Syll. I [419], R 02 a [485].

On living leaves of *Carpinus betulus*. J. Bredsten (Jeppesen), Kjeldkjær (Jeppesen), Ejstrup (in interglacial deposits see Hartz 09 [228] c. icon.); F. Ringe!, Gudme (Octob. 64); S. Ruderhegn (R 91 j); B. Almindingen.

1077. **Mammiania coryli** (Fries) Ces. & de Not., Wt. II [670], Syn: Sphaeria coryli Batsch, Fries S. M. II [436], Fl. D. tab. 2332 fig. 1, Sphaeria gnomon Schum. no 1280, Gnomoniella coryli Sacc., Syll. I [419], R 02 a [485], Hasselens Støvkugle (H 37 [863]).

On living leaves of *Corylus avellana*. S. Avderød Skov ([21]/7 90 see R 92 g [75]).

Ceriospora.

1078. **Ceriospora Dubyi** Niessl, Syll. II [185], Wt. II [575] c. icon.

Humulus lupulus. J. Knivholt Skov (! [29]/7 06).

1079. **Ceriospora ribis** P. Henn., Syll. XVI [534].

Ribes nigrum. J. Marselisborg (F. & W. 07 [253]).

Sphaerognomonia.

1080. **Sphaerognomonia carpinea** (Fries) Potebnia 10 [54] c. icon., Syn: Sphaeria carp. Fries S. M. II [523], Laestadia carp. Sacc., Syll. I [426], Wt. II [398].

Its conidial stage is Gloeosporium Robergei Desm. (see Potebnia).

On dead leaves of *Carpinus betulus*. J. Skovby!, Egebjerg!; F. Klingstrup ([10]/12 76).

Gnomonia.

1081. **Gnomonia salicella** (Fries) Schroeter, Syn: Sphaeria sal. Fries S. M. II [377], Cryptospora sal. Fuckel, R 80 a [196], Diaporthe sal. Sacc., Syll. I [622], Wt. II [649].

Very common on twigs of *Salix caprea*. J. Fredrikshavn!; F. Klingstrup, Skaarup; S. Ermelunden (Sarauw). *Salix pentandra*. S. Lyngby!. *Salix alba*. S. Damhussøen!. *Salix alba* × *amygdalina*. S. Søborg (Exc. June 84). *Salix viminalis*. J. Viborg!.

1082. **Gnomonia conformis** (Berk. & Br.) F. & W. 09 [313], Syn: Sphaeria conf. B. & Br., Metasphaeria conf. Sacc., Syll. IX [834], Calosphaeria alnicola Ell. & Ev., Syll. IX [448], Massarina aln. Berlese 94 [118] c. icon.

On twigs of *Alnus glutinosa* in company with the somewhat smaller Ditopella ditopa. J. Aarhus (08 P. L.); S. Lyngby (F. & W.).

1083. **Gnomonia leptostyla** (Fries) Ces. & de Not., Syll. I [568], Wt. II [580], R 02 a [478].

On fallen leaves of *Juglans regia*, October—April. Common.

1084. **Gnomonia cerastis** (Riess) Ces. & de Not., Syll. I [569], Wt. II [583].

Acer pseudoplatanus. J. Skive!, Viborg; S. Fredriksdal (Oct. 91 O. R.), surely not uncommon.

1085. **Gnomonia veneta** (Sacc.) Klebahn 05, Syn: Laestadia ven. Sacc., Syll. I [422].

It has not yet been found in Denmark; as, however, its conidial stage is very common it is to be supposed that the ascigerous stage is also common on fallen leaves.

1086. **Gnomonia depressula** Karsten, Syll. I [562].

Rubus idaeus. S. Skelskor ([8]/6 09!).

1087. **Gnomonia erythrostoma** (Fries) Awd., Syll. I [566], Wt. II [586], Syn: Sphaeria eryt. Pers., Fries S. M. II [521], Lit: Frank 96 [448] c. icon.

Prunus avium. F. (R 93 o [17] & 02 a [478]).

Gnomoniella.

1088. **Gnomoniella tubiformis** (Fries) Sacc., Syll. I [413], Syn: Sphaeria tub. Fries S. M. II [516], Gnomonia tub. Awd., R 80 a [189] & 02 a [479].

Common on fallen leaves of *Alnus glutinosa*, March—April, also found on *Alnus incana*.

1089. **Gnomoniella vulgaris** (Ces. & de Not.) Sacc., Syll. I [416], Gnomonia vulg. Ces. & de Not., Wt. II [583], Sphaeria gnomon Fries S. M. II [517].

On fallen leaves of *Corylus avellana*. J. Krabbesholm Skov!, Rindsholm (Gad); F. Skaarup (May 74).

1090. **Gnomoniella devexa** (Desm.) Sacc., Syll. I [417], Syn: Gnomoniella dev. Awd., Wt. II [584].

On dead stems of *Polygonum aviculare*. F. Klingstrup. *Polygonum nodosum*. J. Batum (! Exs. Vgr. no 992).

1091. **Gnomoniella lugubris** (Karsten) Sacc., Syll. I [415].

On dead leaves of *Comarum palustre*. F. Skaarup.

1092. **Gnomoniella comari** (Karsten) Sacc., Syll. I [415].

Asci 30—39 μ × 6—7 μ; spor. 6—8 μ × 2,5—3,5 μ.

On stems of *Comarum palustre*. S. Gammelmose ($^{29}/_{6}$ 05 O. R.).

Clypeosphaeriaceae.

Anthostomella.

1093. **Anthostomella conorum** (Fuckel) Sacc., Syll. I [283], Wt. II [560].

Ascis cylindricis 110—120 μ × 9—10 μ octosporis; sporidiis oblique monostichis, ellipsoideo—ovatis, semiopacis 13—14 μ × 6—8 μ.

It is very much like a Rosellinia, and it is rather probable that it is the same as described by Ørsted as Pleosporopsis (see pag. 191); it is impossible to ascertain whether his pictures are to represent the present species or Rosellinia obliquata. It is certainly not impossible that they should be identical. Hitherto it has only been found on the cones, but, no doubt, the specimens contained in Rostrup's herbarium on leaves belong to the same species.

Pinus australis. J. Gaardbogaard on cones (O. R.); S. Tisvilde on fallen leaves ($^{23}/_{6}$ 82).

1094. **Anthostomella tumulosa** (Rob. & Desm.) Sacc., Syll. I [282], Wt. II [559].

Eriophorum vaginatum. S. Lyngby Mose (April 89).

1095. **Anthostomella ammophila** (Ph. & Pl.) Sacc., Syll. I [763] & IX [513].

Ascis cylindraceis 75—80 μ × 7—8 μ; sporidiis monostichis, ovatis, 10—11 μ × 5—6 μ, utrinque appendiculatis.

Hordeum arenarium. S. Tisvilde (July 98).

1096. **Anthostomella lugubris** (Rob. & Desm.) Sacc., Syll. I [278], Wt. II [558].

Ascis 65—90 μ × 11—15 μ; sporidiis 20—25 μ × 9—11 μ, guttulatis.

Hordeum arenarium. J. Skagen (F. K. R.), Tannishus!, Strandby; S. Tisvilde.

Hypospila.

1097. **Hypospila pustula** (Fries) Karsten, Syll. II [189], Wt. II [564], Syn: Phoma pust. Fries S. M. II [547].

On fallen leaves of *Quercus robur* common, noticed from: J. Hald Egeskov!, Klokkedalen!; F. Bjørnemose ($^{30}/_{4}$ 74); S. Jonstrup Vang (O. R.), Geelskov (O. R.). *Quercus rubra*. J. Boller!.

1098. **Hypospila bifrons** Fries S. V. [421], Syll. II [190], Wt. II [565], Syn: Sphaeria bif. de Cand., Fries S. M. II [438].

On dead leaves of *Quercus robur* & *sessiliflora*. J. Hald Egeskov (! $^{31}/_{3}$ 03 —April 04 Exs. Vgr. no 916).

Linospora.

1099. **Linospora caprea** (Fries) Fuckel, Syll. II [354], Wt. II [567], Syn: Sphaeria cap. de Cand., Fries S. M. II [517], Phoma saligna Fries S. M. II [546], Sort Buleplet (H. 37 [872]).

On fallen leaves of *Salix caprea*, common, March—July. *Salix caprea* × *viminalis*. J. Undallslund!. *Salix aurita*. J. Viborg!.

1100. **Linospora ceutocarpa** (Fries)!, Syn: Sphaeria cęut. Fries S. M. II [439], Xyloma punctiforme Schum. no 1355, Linospora tremulae Morth., Syll. II [355], Lin. populina (Pers.) Schroeter, Syll. II [357], Wt. II [568].

Very common on fallen leaves of *Populus tremula*. April—July. J. & S. (Exs. Rehm no 1909).

Valsaceae.

Anthostoma.

1101. **Anthostoma microsporum** (Karsten) Wt., Syll. I [307], Wt. II [759].

Alnus incana. S. Aasevang (May 91 O. R., again 1907! Exs. Rehm no 1478 b), Skjoldnæsholm (Sept. 86 O. R.).

1102. **Anthostoma turgidum** (Fries) Nke., Syll. I [303], Wt. II [757], Syn: Sphaeria turg. Pers., Fries S. M. II [400].

Fagus silvatica. S. Ruderhegn (Sept. 90 O. R.), Dyrehaven (O. R.).

1103. **Anthostoma xylostei** (Fries) Sacc., Syll. I [300], Wt. II [755], Syn: Sphaeria xyl. Pers., Fries S. M. II [487].

On branches of *Lonicera xylosteum.* J. Knivholt!; S. Aasevang (May 91 O. R.), Boserup; Møens Klint (Exc. 13/6 09).

Valsa.

It may safely be stated that the species of Valsa correspond to forms of Cytospora, as a rule every dead branch with Cytospora will — if kept for some time in a sufficiently moist place — produce the ascigerous fructification of the corresponding species of Valsa. Therefore the corresponding forms of Valsa and Cytospora are most frequently indicated by the same species-name, and it is unnecessary that all should be stated here; I shall restrict myself to stating some species which have not the same species-name, viz:

Valsa	Friesii	corresp.	Cytospora	pinastri.
—	sordida	—	—	chrysosperma.
—	duriuscula	—	—	durella.
—	Auerswaldii	—	—	personata.
—	fallax	—	—	corni.
—	aquifolii	—	—	ilicina.
—	sorbi	—	—	rubescens.
—	macrospora	—	—	sarothamni.

Some species of Valsa do not produce the common, short-spored form of conidial fructification called Cytospora, but a different long-spored form called Cytosporina. However, the species concerned do not differ from the other species of Valsa, they belong to the subgenera Eutypa, Eutypella and Cryptosphaeria (but never to Euvalsa).

Valsa (Eutypa)	heteracantha	corresp.	Cytosporina	heteracantha.
— —	milliaria	—	—	milliaria.
Valsa (Eutypella)	ailanthi	—	—	ailanthi.
— —	cerviculata	—	—	cerviculata.
— —	stellulata	—	—	stellulata.
Valsa (Cryptosphaeria)	myriocarpa	—	—	myriocarpa.
— —	eunomia	—	—	millepunctata.

1104. **Valsa abietis** Fries S. V. [412], Syll. I [111], Wt. II [710], Syn: Sphaeria ab. Fries S. M. II [398].

Abies alba. F. Tange Skov. May.

1105. **Valsa Friesii** (Duby) Fuckel, Syll. I [118], Wt. II [721].
Abies alba, common, noticed from S. & F.

1106. **Valsa Curreyi** Nke., Syll. I [132], Wt. II [720].
Larix decidua. S. Øvrerød. October.

1107. **Valsa strobi** Passer., Syll. I [140].
Pinus strobus. S. Ruderhegn. May.

1108. **Valsa pini** Fries S. V. [412], Syll. I [113], Wt. II [709], Syn: Sphaeria pini Fries S. M. II [397].
Pinus strobus. S. Geelskov ($^{12}/_{2}$ 92 O. R.).

1109. **Valsa ambiens** Fries S. V. [412], Syll. I [131], Wt. II [729], Syn: Sphaeria amb. Pers., Fries S. M. II [403], Fl. D. tab. 2039 fig. 1, Sphaeria sphinctrina Fries S. M. II [400], Wt. II [729], Sphaeria capsularis Fries S. M. II [402], Calospora caps. Sacc., Syll. II [232], Sphaeria mixta Schum. no 1313, Udbredt Støvkugle (H. 37 [862]).
Alnus glutinosa. F. Skaarup. *Corylus avellana*. J. Krabbesholm Skov!. *Fagus silvatica*. J. Boller; S. Krogenborg Hegn, Geelskov, Charlottenlund. *Crataegus* very common. *Pirus communis*. S. København!. *Pirus malus silvestris*. F. Brændeskov; S. Sorø (Sarauw).

1110. **Valsa translucens** de Not., Syll. I [142], Wt. II [737].
Salix daphnoides. S. Lersøen ($^{30}/_{5}$ 96).

1111. **Valsa salicina** Fries S. V. [412], Syll. I [131], Wt. II [728], R 80 a [197], Syn: Sphaeria sal. Fries S. M. II [401].
Very common from December—July on twigs of *Salix caprea, alba, daphnoides, pentandra* etc.

1112. **Valsa lata** (Fries) Nke., Wt. II [681], Syn: Sphaeria lata Persoon, Fries S. M. II [369], Eutypa lata Tul., Syll. I [170], Lit: Romell 92.
Salix cinerea. S. Lyngby!. *Liriodendron tulipifera*. S. Dronninggaard ($^{15}/_{6}$ 96).

1113. **Valsa germanica** Nke., Syll. I [133], Wt. II [731].
Salix amygdalina. S. Lersøen (August 90 O. R.).

1114. **Valsa Auerswaldii** Nke., Syll. I [138], Wt. II [735].
Salix cinerea. S. Geelskov ($^{6}/_{9}$ 91 O. R.). *Fagus silvatica*. S. Geelskov (O. R).

1115. **Valsa dolosa** (Fries) Nke., Syll. I [136], Wt. II [720], Syn: Sphaeria dol. Fries S. M. II [405].
Salix caprea. S. Ruderhegn (April 91 O. R.).

1116. **Valsa populina** Winter II [694] (not. V. pop. Fuckel), Syn: Cryptosphaeria pop. Sacc., Syll. I [183], Sphaeria corticis Fries S. M. II [481], not Valsa cort. Tul.
Populus candicans. S. Dronninggaard (O. R.), Vanløse.

1117. **Valsa sparsa** (Romell)!, Syn: Eutypa sparsa Romell 92, Valsa eutypa (Ach.) Nke. partim.

On decorticated branches of *Populus*. F. L.

1118. **Valsa nivea** Fries S. V. [411], Syll. I [137], Wt. II [734], Syn: Sphaeria nivea Hoffm., Fries S. M. II [386].

Very common on twigs of *Populus tremula, candicans, angulata, deltoides*.

1119. **Valsa horrida** Nke., Syll. I [117], Wt. II [705], Syn: Sphaeria hystrix Schum. no 1335 (not Sphaeria hystrix Tode).

Betula. S. (specimens in Schumacher's herbarium).

1120. **Valsa Fuckelii** Nke., Syll. I [112], Wt. II [714].

Corylus avellana. J. Rindsholm!; S. Geelskov (Febr. 92 O. R.), København (Ø. W.).

1121. **Valsa flavovirens** (Fries) Nke., Syn: Sphaeria flav. Fries S. M. II [357], Eutypa flav. Tul., R 80 a [179], Valsa flavovirescens (Hoffm.) Wt. II [680], Eutypa flav. Sacc., Syll. I [172], Gulgrøn Sporekugle (R 69 [73]).

Common on dead wood and branches of many species of trees and bushes, noticed on *Fagus silvatica, Betula, Corylus, Prunus spinosa, Ribes nigrum* etc.

1122. **Valsa spinosa** (Fries) Nke., Wt. II [672], Syn: Sphaeria spin. Pers., Fries S. M. II [672], Eutypa spin. Tul., Syll. I [169], Tornet Støvkugle (H 37 [859]).

It is not this species which Rostrup delineates and describes (02 a [475]) under this name; see Radulum aterrimum.

Fagus silvatica. S. Ermelunden (March 81 V. Sarauw); Falst. Egevænget (Exc. 5/6 1911).

1123. **Valsa scabrosa** (Fries) Nke., Wt. II [679], Syn: Eutypa scab. Fuckel, Syll. I [171], Sphaeria scab. Bulliard, Fries S. M. II [360], Ujævn Støvkugle (H 37 [859]).

Fagus silvatica. F. Skaarup; S. Dyrehaven (O. R.), Fred. VII's Anlæg (Rützou).

1124. **Valsa grandis** Nke., Wt. II [696], Eutypella gran. Sacc., Syll. I [152], Diatrype gran. Berlese 05 [88].

On dead branches of *Quercus robur*. J. Krabbesholm Skov (29/4 04!), Non Mølle (! Exs. Vgr.).

1125. **Valsa pustulata** Awd., Syll. I [135], Wt. II [727].

Fagus silvatica. J. Constantinsborg (Ø. W.); F. (Lyman); S. Ruderhegn (O. R.), Charlottenlund (Jan. 84 V. Sarauw).

1126. **Valsa eutypa** (Fries) Nke. partim, Wt. II [674], Syn: Sphaeria eutypa Fries S. M. II [478], Eutypa Acharii Tul., Syll. I [162].

Lars Romell has stated (92) that Valsa eutypa Nke. is to be divided into two different species: Valsa eutypa on Acer and Fagus and Valsa sparsa on Populus.

Fagus silvatica. L. Stenskoven (Aug. 05). *Acer pseudoplatanus.* S. Hareskoven!.

1127. **Valsa stellulata** Fries S. V. [411], Wt. II [700], Syn: Sphaeria stel. Fries S. M. II [380], Eutypella stel. Sacc., Syll. I [149].

Ulmus montana. J. Frederikshavn!; S. Charlottenlund (Sarauw), Søndermarken, Sorø (April 80 Sarauw), Slagelse!.

1128. **Valsa prunastri** Fries S. V., Wt. II [700], Syn: Sphaeria prun. Pers., Fries S. M. II [380], Eutypella prun. Sacc., Syll. I [147], Slaaens Støvkugle (H. 37 [860]).

Rostrup (02 a [485]) considers this species a true parasite. Poul Larsen has also told me that he has observed that this species has killed large branches of sound trees.

Prunus cerasus. J. Viborg!, Brabrand (P. L.). *Prunus spinosa.* S. Hellebæk (O. R.), Charlottenlund ($^6/_5$ 81 Sarauw), Sorø (Sarauw); B. Almindingen. (Exc. $^{15}/_5$ 11).

1129. **Valsa ceratophora** Tulasne, Syll. I [108], Wt. II [707].

Prunus spinosa. J. Krabbesholm Skov ($^{17}/_4$ 04!); S. Ruderhegn!.

1130. **Valsa microstoma** Fries S. V., Syn: Sphaeria mic. Pers., Fries S. M. II [388].

Prunus spinosa. S. Ermelunden ($^4/_2$ 82 Sarauw).

1131. **Valsa leucostoma** Fries S. V. [411], Syll. I [139], Syn: Sphaeria leuc. Fries S. M. II [387], Valsa Persoonii Nke., Wt. II [733], Hvidmundet Støvkugle (H. 37 [861]).

Aderhold (03 a) has made splendid and accurate cultivating experiments to prove the genetic relation between the Valsa and the Cytospora which attack Prunus cerasus, but unfortunately he has been unable to determine the names of the species with which he has worked; he himself, states them to be Cytospora rubescens and Valsa leucostoma, I should, however, consider them more likely to be Cytospora leucostoma and Valsa leucostoma.

Prunus padus. F. Klingstrup; L. Skjelsnæs. *Prunus spinosa.* S. Sorø (Sarauw). *Sorbus aucuparia.* S. Geelskov (O. R.).

1132. **Valsa Massariana** de Not., Syll. I [138], Wt. II [733].

Sorbus americana. S. Botanisk Have (March 09, F. & W. 09 [316]).

1133. **Valsa sorbi** Fries S. V., Wt. II [700], Syn: Sphaeria sorbi Alb. & Schw., Fries S. M. II [380], Eutypella sorbi Sacc., Syll. I [148], Sphaeria pentagona Fries S. M. II [407], Eutypella pent. Sacc., Syll. I [148], Rønnens Støvkugle (H. 37 [860]), Rønnens Sporekugle (R 69 [74]).

Very common on twigs and branches of *Sorbus aucuparia.*

1134. **Valsa ocellata** Fries S. V., Wt. II [748], Syn: Sphaeria oc. Fries S. M. II [480], R 83 d [290], Cryptosphaeria oc. Ces. & de Not., Syll. I [184].
Fraxinus excelsior. F. Skaarupør; S. Slagslunde, Frerslev Hegn.

1135. **Valsa eunomia** (Fries) Nke., Wt. II [694], Syn: Sphaeria eu. Fries S. M. II [377], Cryptosphaeria millepunctata Grev., Syll. I [182].
Quite common on dead twigs of *Fraxinus excelsior* (see R 83 d [289]).

1136. **Valsa aspera** Nitschke, Wt. II [675], Syn: Eutypa asp. Fuckel, Syll. I [163].
Lonicera periclymenum. J. Krabbesholm Skov!, L. Stensgaard.

Diaporthe.

Most species of the genus Diaporthe produce conidial fructifications belonging to the formgenus Phomopsis. I shall here give a list of the Danish species only. For the others see Diedicke 11, v. Höhn. 06, etc.

Diaporthe conorum corresponds to Phomopsis conorum.

—	pithya	—	—	pithya.
—	spina	—	—	leucostoma.
—	alnea	—	—	alnea.
—	sulphurea	—	—	sulphurea.
—	fibrosa	—	—	fibrosa.
—	leiphaemia	—	—	quercina.
—	taleola	—	—	taleola (Tul. Carp. II [168]).
—	eres	—	—	oblonga.
—	cinerascens	—	—	cinerascens.
—	Tulasnei	—	—	urticae.
—	juglandina	—	—	juglandina.
—	maculosa	—	—	Durandiana.
—	detrusa	—	—	detrusa.
—	velata	—	—	velata.
—	aesculicola	—	—	aesculi.
—	Lebiseyi	—	—	Lebiseyi.
—	hystrix	—	—	notha.
—	pustulata	—	—	pustulata.
—	longirostris	—	—	Tulasnei.
—	Laschii	—	—	foveolaris.
—	decorticans	—	—	padina.
—	ambigua	—	—	ambigua.
—	rudis	—	—	rudis.
—	inaequalis	—	—	inaequalis.
—	sarothamni	—	—	sarothamni.
—	fasciculata	—	—	pseudacaciae.

Diaporthe	corni	corresponds to	Phomopsis	corni.
—	nigrella	—	—	eryngiicola.
—	dulcamarae	—	—	dulcamarae.
—	importata	—	—	importata.
—	adunca	—	—	subordinaria.
—	Desmazierii	—	—	denigrata.
—	occultata	—	—	depressa.
—	scobina	—	—	scobina.
—	cryptica	—	—	cryptica.
—	spiculosa	—	—	sambucella.
—	immersa	—	—	immersa.
—	arctii	—	—	arctii.
—	picea	—	—	picea.
—	orthoceras	—	—	achilleae.
—	Malbranchei	—	—	Malbranchei.

1137. **Diaporthe pithya** Sacc., Syll. I [689], R 88 k [4] & 06 dd.
On branches of *Picea excelsa*. B. Almindingen in abundance.

1138. **Diaporthe pardalota** (Mont.) Fuckel, Syll. I [693], Wt. II [621].
On dead stems of *Polygonatum multiflorum*. J. Moesgaard ([19]/8 07 F. & W. 09 [315]).

1139. **Diaporthe spina** Fuckel, Syll. I [685], Wt. II [640].
On branches of *Salix viminalis*. S. Eskemosegaard (June 03 O. R.). *Salix alba* × *amygdalina*. S. Søborg.

1140. **Diaporthe tesella** (Fries) Rehm, Syll. I [628], Wt. II [661], Syn: Sphaeria tes. Pers., Fries S. M. II [393], Tavleformig Støvkugle (H. 37 [861]).
Salix cinerea. F. Skaarup (April 62); L. Bøllesminde.

1141. **Diaporthe alnea** Fuckel, Syll. I [677], Wt. II [629].
Alnus glutinosa. S. Dyrehaven ([12]/3 82 Sarauw). *Alnus cordata* (Holst [22]/2 04).

1142. **Diaporthe multipunctata** Fuckel, Syll. I [672].
On branches of *Corylus avellana*. J. Trelde Skov ([4]/9 00).

1143. **Diaporthe sulphurea** Fuckel, Syll. I [625], Wt. II [663].
Corylus avellana. J. Constantinsborg ([27]/12 07 Ø. W.); S. Fredriksdal (F. & W. 09 [315]).

1144. **Diaporthe bitorulosa** (Berk. & Br.) Sacc., Syll. I [608], Wt. II [659].
On branches of *Carpinus betulus*. S. Charlottenlund (June 05 O. R.).

1145. **Diaporthe aristata** (Fries) Karsten, Syll. I [613], Syn: Sphaeria ar. Fries S. M. II [363].
Betula alba. F. Einsiedelsborg, July.

1146. **Diaporthe exasperans** Nke., Syll. I [686], Wt. II [644].
On branches of *Betula alba*. S. Slagelse ($^{6}/_{5}$ 07!).

1147. **Diaporthe faginea** (Currey) Sacc., Syll. I [619].
Fagus silvatica. S. Charlottenlund, Ermelunden (O. R.).

1148. **Diaporthe leiphaemia** (Fries) Sacc., Syll. I [615], Wt. II [652], Syn: Sphaeria lei. Fries S. M. II [399].
On twigs and branches of *Quercus robur*, very common in the spring.

1149. **Diaporthe taleola** (Fries) Sacc., Syll. I [626], Wt. II [665], Syn: Sphaeria tal. Fries S. M. II [391], Aglaospora tal. Tulasne, Caudospora tal. Starbäck.
Very noxious parasite, injurious to the young plants, producing cancer-like wounds on the stems (R 02 a [484]).
Quercus robur. J. Nørreskov near Vejle; S. Dyrehaven ($^{3}/_{4}$ 82 Sarauw).

1150. **Diaporthe quercus** Fuckel, Syll. I [672], Wt. II [643].
On branches of *Quercus robur*. J. Friisenborg. May.

1151. **Diaporthe juglandina** (Fuckel) Nke., Syll. I [674], Wt. II [647].
Juglans regia. S. København ($^{24}/_{2}$ 82 Sarauw).

1152. **Diaporthe Aubertii** (West.) Lambert, Syll. I [666].
On twigs and stems of *Myrica gale*. J. Tværsted Plantage; S. Bromme.

1153. **Diaporthe detrusa** (Fries) Fuckel, Syll. I [619], Wt. II [653], Syn: Sphaeria det. Fries S. M. II [382].
On branches of *Berberis vulgaris*. J. Silkeborg!; F. Skaarup; S. København ($^{15}/_{6}$ 81 Sarauw).

1154. **Diaporthe velata** (Fries) Nke., Syll. I [681], Wt. II [645], Syn: Sphaeria vel. Persoon, Fries S. M. II [375].
On branches of *Tilia europaea*. J. Constantinsborg ($^{20}/_{1}$ 07 F. & W. 09 [315]).

1155. **Diaporthe aesculicola** (Cooke) Berlese & Vogl., Syll. IX [709].
Ascis clavatis, curvulis apice rotundatis, crasse tunicatis, octosporis, 50—75 μ × 13—15 μ. Sporidiis utrinque rotundatis, biloculatis, constrictis, 20—25 μ × 5—6,5 μ. In ramis corticatis Aesculi, socia Phomopsidis aesculi (Sacc. sub. Septomyxa).
On dead branches of *Aesculus hippocastanum*. J. Krabbesholm Skov ($^{12}/_{11}$ 05!).

1156. **Diaporthe Niesslii** Sacc., Syll. I [610], Wt. II [656].
On branches of *Acer pseudoplatanus*. F. Vejstrup Aaskov, Klingstrup.

1157. **Diaporthe Laschii** Nke., Syll. I [684], Wt. II [642].
On branches of *Evonymus europaeus*. J. Moesgaard ($^{3}/_{1}$ 09 F. & W. 09 [315]).

1158. **Diaporthe fibrosa** (Fries) Fuckel, Syll. I [618], Wt. II [653], Syn: Sphaeria fib. Pers., Fries S. M. II [384].

On branches of *Rhamnus cathartica*. J. Constantinsborg (Ø. W.); S. Charlottenlund ([21]/1 82 Sarauw), Boserup (O. R.).

1159. **Diaporthe syngenesia** (Fries) Nke., Syll. I [626], Wt. II [666], Syn: Sphaeria syng. Fries S. M. II [382], Diaporthe nigricolor Nke., Syll. I [638], Wt. II [613], Diaporthe Berlesiana Sacc. & Roum. (see Höhnel 06 [657]).

On branches of *Frangula alnus*. J. Flade!, Viborg!, Silkeborg!, Hornslet (F. & W. 09 [315]); S. Klosterris Hegn.

1160. **Diaporthe strumella** (Fries) Fuckel, Syll. I [613], Wt, II [654], Syn: Sphaeria strum. Fries S. M. II [365].

Quite common on dead twigs of *Ribes nigrum* & *grossularia*, from December—May.

1161. **Diaporthe insignis** Fuckel, Syll. I [608], Wt. II [624].

On dead twigs of *Rubus idaeus*. S. Geelskov.

1162. **Diaporthe idaeicola** (Karsten) Vgr. 00 b [30], Syll. XVI [493], Syn: Gnomoniella id. Sacc., Syll. I [418], Diaporthe nidulans Nssl 76 [209], Syll. I [627], Wt. II [662].

When the perithecia occur on the thin twigs they are most frequently found singly so they are to be classified as Gnomoniella, but when they occur on branches a little thicker there will always be more of them congregated, so they are to be considered as belonging to the present genus.

Rubus idaeus cult. Common.

1163. **Diaporthe padi** Otth, Syll. XIV [543].

On branches of *Prunus padus*. F. Klingstrup Søskov ([10]/4 82).

1164. **Diaporthe decorticans** (Lib.) Sacc., Syll. I [619], Wt. II [650], Afbarkende Støvkugle H 37 [861].

On branches of *Prunus padus*. J. Fusingø ([25]/5 04!).

1165. **Diaporthe parabolica** Fuckel, Syll. I [644], Wt. II [615].

On branches of *Prunus spinosa*. S. Ermelunden ([12]/3 82 Sarauw).

1166. **Diaporthe sorbicola** (Nitschke) Bref., Syn: Valsa sorb. Nke., Syll. I [124], Diaporthe patria Speg., Syll. I [617] (see Schroeter 08 [428]).

On branches of *Sorbus aucuparia*. S. Hareskov ([3]/2 07, F. & W. 09 [315]).

1167. **Diaporthe crataegi** (Currey) Fuckel, Syll. I [620] & IX [710], Wt. II [651].

Crataegus oxyacantha. J. Viborg!; S. Dyrehaven ([29]/3 81 Sarauw, again [15]/5 07!).

1168. **Diaporthe inaequalis** (Currey) Nke., Syll. I [663], Wt. II [645].
Sarothamnus scoparius. J. Viborg Nørreskov!, Bruunshaab ([18]/8 03!).

1169. **Diaporthe epilobii** Cooke, Syll. I [690].
On stems of *Epilobium obscurum*. Falst. Bøtø ([23]/7 98 see R 99 b IX).

1170. **Diaporthe Berkeleyi** (Desm.) Nke. Syll. I [647], Wt. II [603], Syn: Diap. denigrata Wt. II [604], Syll. I [649], Gnomoniella angelicae (Fuckel) Sacc., Syll. I [417], Wt. II [577].
Perithecia solitariis, immersis, rostro stricto, cylindraceo; ascis oblongis 48—52 μ × 7—8 μ; sporidiis 12 μ × 4—5 μ, diu integris, denique uniseptatis.
On dead stems of *Pastinaca sativa*. S. Husum ([28]/7 09!).

1171. **Diaporthe dulcamarae** Nke., Syll. I [650], Wt. II [601].
On dead stems of *Solanum dulcamara*. S. Lyngby Mose ([8]/10 08!, again [6]/2 09 F. & W. 09 [315]).

1172. **Diaporthe Desmazierii** Niessl, Syll. I [656], Wt. II [605].
On dead stems of *Scutellaria galericulata*. F. Skaarup, July.

1173. **Diaporthe scobina** Nke., Syll. I [676], Wt. II [641].
Fraxinus excelsior. J. Baggesvogn ([4]/4 98 Glud), Constantinsborg (F. & W. 09 [315]).

1174. **Diaporthe occultata** (Fries) Sacc., Syll. I [675], Wt. II [666], Syn: Sphaeria occ. Fries El. II [72], Diaporthe resecans Nke., Syll. I [674], Wt. II [628].
On deads twigs and capsules of *Syringa vulgaris*. Falst. Stubbekøbing. July.

1175. **Diaporthe cryptica** Nke., Syll. I [641], Wt. II [610].
Lonicera periclymenum. F. Skaarup ([7]/4 83).

1176. **Diaporthe circumscripta** Otth., Syll. I [679], Wt. II [629].
Sambucus nigra. S. Suserup ([28]/5 82 Sarauw).

1177. **Diaporthe arctii** (Lasch) Nke., Syll. I [653], Wt. II [606].
On dead stems of *Lappa*. S. Sorø (April 1881 Sarauw).

1178. **Diaporthe immersa** (Fuckel) Nke., Syll. I [653], Wt. II [606].
Not identical with Sphaeria immersa Fries S. M. II [358], rather with the following species.
On dead stems of *Lappa*. S. Folehave.

1179. **Diaporthe othoceras** (Fries) Nke., Syll. I [651], Wt. II [607], Syn: Sphaeria o. Fries El. II [97].
On dead stems of *Artemisia vulgaris*. F. Skaarupøre, March.

1180. **Diaporthe linearis** (Fries) Nke., Syll. I [652], Wt. II [600], Syn: Sphaeria lin. Nees, Fries S. M. II [429].
On dead stems of *Solidago virgaurea*. J. Boller Krat near Viborg ([11]/9 06!).

Fenestella.

1181. **Fenestella subvestita** F. & W. 09 [313] c. icon.
In dead bark on twigs of *Alnus glutinosa*. S. Lyngby Mose (February 09 F. & W.).

1182. **Fenestella princeps** Tulasne, Syll. II [325], Wt. II [792] c. icon., Syn: Fen. fenestrata (B. & Br.) Schroeter 08 [435], Fen. betulae Sacc., Syll. II [331], Fen. media Tul., Syll. II [427], Fen. Faberi Sacc., Syll. II [330], Cucurbitaria crataegi Niessl, Syll. II [313], Wt. II [329] (see Berlese 00 [77] & F. & W. 07 [251]).
Alnus glutinosa. S. Lyngby. *Fagus silvatica*. S. Geelskov. *Prunus spinosa*. S. Charlottenlund ([14]/4 81 Sarauw). *Crataegus monogyna*. J. Viborg!.

1183. **Fenestella macrospora** Fuckel, Syll. II [328], Wt. II [793].
Fagus silvatica. S. Charlottenlund ([29]/1 82 Sarauw).

1184. **Fenestella vestita** (Fries) Sacc., Syll. II [329], Wt. II [793], Syn: Sphaeria vest. Fries S. M. II [410], Fenestella melastoma Sacc., Syll. II [329], Wt. II [796], Fen. lycii. (Hazl.) Sacc., Syll. II [329], Wt. II [795], Fen. hormospora Sacc., Syll. IX [922], Fen. ulmicola Ell. & Ev., Syll. XI [349] (see Berlese 00 [74]).
Ulmus. S. Charlottenlund ([29]/1 82 Sarauw). *Acer pseudoplatanus*. S. Ruderhegn!. *Ribes rubrum*. S. Landbohøjskolens Have. *Lycium barbatum*. S. Strandmøllen, Østerbro (Sarauw).

Melanconidaceae.

Within the family of Melanconidaceae a regular formation of conidial fructification will take place before the appearance of the ascigerous fructification; both originate from the same stroma, so the genetical relation between both stages is quite evident; thus the conidial stage of Cryptospora is most frequently called Cryptosporium viz:

Cryptospora	populina	corresp.	Cryptosporium	coronatum.
—	suffusa	—	—	Neesii (see Tul. Carp.).
—	betulae	—	—	Neesii f. betulinum.
—	quercus	—	—	quercus (see Berlese 00).
—	aurea	—	—	amygdalinum.
—	hypodermia	—	Myxosporium	hypodermium (see Fuckel).

The species of the genus of Melanconis correspond to the forms of Melanconium or Stilbospora viz:

Melanconis	stilbostoma	corresp.	Melanconium	betulinum (Tul. Carp.).
—	alni	—	—	sphaeroideum.
—	charthusiana	—	—	juglandinum (Tul. Carp.).
—	chrysostroma	—	—	ramulorum.
—	thelebola	—	Stilbospora	thelebola.
—	modonia	—	—	modonia.

As is the case with the other genera of the family of Melanconideae the species of Pseudovalsa also correspond to forms of Melanconieae viz:

Pseudovalsa	lanciformis	corresp.	Coryneum	Notarisianum.
—	longipes	—	—	Kunzei.
—	umbonata	—	—	umbonatum.
—	vanillae	—	Gloeosporium	vanillae (Massee).
—	macrosperma	—	Stilbospora	angustata (Tul. Carp. II [132]).
—	convergens	—	—	macrosperma.

Cryptospora.

1185. **Cryptospora populina** Fuckel, Wt. II [769], Syn: Cryptosporella pop. Sacc., Syll. I [467].

Populus pyramidalis. F. Skaarup.

1186. **Cryptospora suffusa** (Fries) Tul., Syll. II [361], Wt. II [772], Syn: Sphaeria suf. Fries S. M. II [399], Ellens Grentørre (R 90 a [244] c. icon., 96 q [122], 02 a [479] c. icon.).

A destructive parasite on twigs of Alnus. *Alnus glutinosa,* common. *Alnus incana.* S. Hareskov (Ø. W.). *Alnus cordata.* (Holst).

1187. **Cryptospora betulae** Tulasne, Syll. II [364], Wt. II [772] c. icon.

This fungus often proves destructive to cultivated Betula, see R 96 q [122] & 02 a [481]. *Betula verrucosa* common, noticed from all parts of the country.

1188. **Cryptospora versatilis** (Fries)!, Syn: Sphaeria vers. Fries S. M. II [364], Cryptospora corylina (Tul.) Fuckel, Syll. II [362] & IX [939], Wt. II [362].

Corylus avellana. J. Krabbesholm Skov ([19]/4 04!); F. Svenborg!; S. København (F. & W. 07 [253]).

1189. **Cryptospora hypodermia** (Fries) Fuckel, Wt. II [768], Syn: Sphaeria hyp. Fries S. M. II [407], Cryptosporella hyp. Sacc., Syll. I [466].

On dead twigs of *Ulmus montana.* S. Charlottenlund ([20]/5 81 Sarauw), Juelsberg (O. R.).

Valsaria.

1190. **Valsaria megalospora** Awd., Syll. I [749], Wt. II [805].
Alnus glutinosa. S. Aasevang, May.

1191. **Valsaria foedans** (Karsten) Sacc., Syll. I [748].
Alnus glutinosa. S. Fredriksdal. October.

1192. **Valsaria insitiva** Ces. & de Not., Syll. I [741], Wt. II [804].
Alnus glutinosa. S. Philosophgangen by Sorø (7/6 81 Sarauw). *Cornus sanguinea.* J. Thorsager Skov!.

1193. **Valsaria tiliae** (Fries) de Not., Syn: Hercospora tiliae (Pers.) Tul., Syll. I [605], Wt. II [775], Sphaeria tiliae Fries S. M. II [485], Sphaeria leprosa Pers., Fries S. M. II [365].
Quite common on dead cortex of *Tilia europaea.*

Melanconis.

1194. **Melanconis stilbostoma** (Fries) Tul., Syll. I [602], Wt. II [777], Syn: Sphaeria stilb. Fries S. M. II [403], Sphaeria nivea Schum. no 1323, non Pers. nec Haller., Fl. D. tab. 825 fig. 1.
On dead twigs of *Betula verrucosa.* S. Bøllemose, Sorø (Sarauw). *Betula pubescens.* J. Non Mølle!, S. Fredriksdal (O. R.) and certainly in many other places.

1195. **Melanconis thelebola** (Fries) Sacc., Syll. I [605], Wt. II [780], Syn: Sphaeria thel. Fries S. M. II [408].
Alnus glutinosa. J. Nebsager (July 91 O. R.).

1196. **Melanconis alni** Tul., Syll. I [604], Wt. II [779].
Alnus glutinosa. J. Hald (20/10 03!).

1197. **Melanconis fagi** Ouds, Syll. XIV [543].
Fagus silvatica. J. Aarhus (March 06 P. L.).

1198. **Melanconis fennica** Karsten, Syll. I [603].
Sorbus aucuparia. (hosp. nov.). S. Geelskov (Septbr. 91 O. R.).

Pseudovalsa.

1199. **Pseudovalsa aucta** (B. & Br.) Sacc., Syll. II [138], Wt. II [789], Lit: F. & W. 07.
Alnus glutinosa. J. Marselisborg (P. L. & Ø. W.); S. Hareskov (Ø. W.), Philosophgangen near Sorø (9/4 82 Sarauw, again March 07 C. F.).

1200. **Pseudovalsa lanciformis** (Fries) Ces. & de Not., Syll. II [135], Wt. II [784] c. icon., Syn: Sphaeria lanc. Fries S. M. II [362], Sphaeria coarctata Schum. no 1331 (see R 85 g [149]), Fries S. M. II [367], Sphaeria mela-

sperma Fries S. M. II [389], Diatrypella melasp. Sacc., Syll. I [208], Lancetformig Støvkugle (H. 37 [859]).

On dead twigs of *Betula pubescens*, quite common, June.

1201. **Pseudovalsa umbonata** (Tul.) Sacc., Syll. II [135], Wt. II [785].

Quercus robur. S. Sorø Akademiehave ([30]/12 81 Sarauw).

1202. **Pseudovalsa platanoides** (Berk.) Wt. II [790], Syn: Sphaeria stilbostoma var plat. Fries S. M. II [404], Valsa plat. Berk., Calospora Innesii (Curr.) Sacc., Syll. II [231].

Acer pseudoplatanus. J. Knivholt!, Viborg!, Boller; F. Faaborg (J. J. Hansen); S. Sorø ([30]/7 81 Sarauw).

1203. **Pseudovalsa profusa** (Fries) Wt. II [785], Syn: Sphaeria prof. Fries S. M. II [392], Aglaospora prof. de Not., Syll. II [133].

Robinia pseudacacia. J. Marselisborg (F. & W. 09 [316]); S. Fredriksdal (Oct. 95 O. R.).

Diatrypaceae.

Calosphaeria (incl. *Coronophora*).

1204. **Calosphaeria angustata** (Fuckel) Nke., Wt. II [821], Syn: Coronophora ang. Fuckel, Syll. I [103].

Fagus silvatica. S. Charlottenlund ([29]/1 82 Sarauw).

1205. **Calosphaeria gregaria** (Lib.) Nke., Wt. II [820], Syn: Coronophora greg. Fuckel, Syll. I [103].

Sorbus aucuparia. F. Skaarup.

1206. **Calosphaeria pulchella** (Fries) Schroeter 08 [451], Syn: Sphaeria pul. Pers., Fries S. M. II [406], Calosphaeria princeps Tul., Syll. I [95], Wt. II [814].

Prunus avium. S. Fredriksdal (Sept. 90 O. R.).

Diatrype.

1207. **Diatrype bullata** Fries S. V. [385], Syll. I [192], Wt. II [840], Syn: Sphaeria bul. Hoffmann, Fries S. M. II [349].

On dead branches of *Salix caprea*, common. *Salix alba*. L. Stensgaard. *Salix Schraderiana*. S. Landbohøjskolens Have. *Populus*. F. Skaarup.

1208. **Diatrype disciformis** Fries S. V. [385], Syll. I [191], Wt. II [839], R 80 a [180] & 02 a [486], Syn: Sphaeria disc. Hoffmann, Fries S. M. II [353], Schum. no 1326, Fl. D. tab. 1859 fig. 1 & tab. 2157, Diatrype rimosa

Fuckel, Syll. I [191], Wt. II [840], Skiveformig Støvkugle (H. 37 [858]), Skive-Sporekugle (R 69 [72]).

Betula verrucosa. J. Undallslund!. *Corylus avellana.* J. Ørsløvkloster!; S. (Schum.). *Fagus silvatica* very common. *Quercus robur.* S. Ruderhegn!. *Acer pseudoplatanus.* Lang. Tranekær. *Frangula alnus.* J. Knivholt!. *Prunus spinosa.* S. Sorø (Sarauw). *Crataegus oxyacantha.* J. Viborg!; S. Sorø!.

1209. **Diatrype stigma** Fries S. V. [385], Syll. I [193], Wt. II [838], R 80 a [179], 02 a [486], Syn: Sphaeria stigma Hoffmann, Fries S. M. II [350], Schum. no 1303, Fl. D. tab. 2037 fig. 2, Sphaeria undulata Fries S. M. II [350], Punktformig Støvkugle (H. 37 [858]), Prikket Sporekugle (R 69 [72]).

Very common on dead twigs and branches, often associated with the above species. *Betula verrucosa.* J. Undallslund!. *Corylus avellana.* S. Sorø!. *Fagus silvatica,* common. *Quercus robur.* J. Hald Egeskov!; F. Brændeskov Vænge. *Acer pseudoplatanus.* F. Glorup. *Acer campestre.* L. Vesterborg. *Prunus spinosa.* J. Skaungaard!.

Diatrypella.

1210. **Diatrypella abietis** spec. nov. See tab. IV. figg. 47—48.

Acervulis gregariis obtuse conicis sub epidermide plerumque pustulatim elevata nidulantibus ex peritheciis 10—15 circinantibus efformatis, epidermide rupta arcte cinctis, intus pallidis. Peritheciis minutis e globoso depressis, 1/3 mm diam., monostichis, dense stipatis, mutuaque pressione angulatis, basi in stromate e matre formato immersis, ostiolis parum vel vix prominulis instructis, in disculum album erumpentibus. Ascis anguste clavatis, 44—50 μ × 4—7 μ, polysporis; sporidiis curvulis, hyalinis, 4—6 μ × 0,7—1 μ.

In the cortex of the dead trunk of *Abies alba.* J. Horsnæs near Silkeborg (11/7 06 E. R.).

1211. **Diatrypella Tocciaeana** de Not., Syll. I [202], Wt. II [836], Syn: Sphaeria difformis Schum. no 1332, Uregelmæssig Støvkugle (H. 37 [859]).

On branches of *Alnus glutinosa,* common, noticed from J., F., S. & B.

1212. **Diatrypella verruciformis** (Fries) Nke., Syll. I [201], Wt. II [832], Syn: Sphaeria ver. Ehrh., Fries S. M. II [355], Schum. no 1328, Fl. D. tab. 2037 fig. 3, Sphaeria angulata Schum. no 1329, Fl. D. tab. 2160, not Fries, Vorteformig Støvkugle (H. 37 [859]).

Betula alba. F. Brandstrup Molle (O. R.), Skjoldnæsholm. *Corylus avellana.* Common.

1213. **Diatrypella favacea** (Fries) Ces. & de Not., Syll. I [201], Wt. II [832], Syn: Sphaeria fav. Fries S. M. II [354], Sphaeria betulae Schum. no 1330, Fl. D. tab. 2156 fig. 1, Biekageformig Støvkugle (H. 37 [858]).

Common on branches and trunks of *Betula alba.* J. Knivholt!, S. Færgelunden, Folehavehegn (O. R.), Eskemose!, Skjoldnæsholm; B. Almindingen (Exc. 15/5 11).

1214. **Diatrypella angulata** (Fries)!, Syn: Sphaeria ang. Fries S. M. II [390], Diatrypella nigro-annulata (Grev.) Nke., Syll. I [202], Wt. II [835].
Fagus silvatica. S. Ermelunden (Sarauw), Philosophgangen by Sorø ([26]/12 81 Sarauw); L. Vesterborg.

1215. **Diatrypella aspera** (Fries) Nke., Syll. I [204], Wt. II [830], Syn: Sphaeria asp. Fries S. M. II [354].
Its conidial fructification is Cytosporina aspera (Wallr.) Sacc.
Fagus silvatica. J. Horsens!; S. Dyrehaven (Didrichsen & Sarauw), Sorø (Sarauw); B. Almindingen (Exc. [15]/5 11).

1216. **Diatrypella laevigata** Fuckel, Syll. I [205], Wt. II [830].
On branches of *Quercus robur.* F. Broholm.

1217. **Diatrypella pulvinata** Nke., Syll. I [203], Wt. II [829].
Quercus robur. S. Dyrehaven (Nov. 91 O. R.).

1218. **Diatrypella quercina** (Fries) Nke., Syll. I [206], Wt. II [828], Syn: Sphaeria q. Fries S. M. II [362].
Quercus robur. F. Kajrupgaard, Sortebjerg Vænge, Vejstrup Aaskov, Skaarup (March 63); S. Dronninggaard (O. R.), Charlottenlund, Sorø (Sarauw).

Quaternaria.

1219. **Quaternaria Persoonii** Tulasne, Syll. I [106], Wt. II [824], Syn: Sphaeria quaternata Pers., Fries S. M. II [409], Schum. no 1294, Fl. D. tab. 2039 fig. 2, Sphaeria obducta Schum. no 1309, Fiirkimet Støvkugle (H. 37 [862]), Kors-Sporekugle (R 69 [73]), Lit: R 80 a [180], 02 a [486].
Its conidial fructification is Libertella faginea Desm. (see Tul. Carp. II [105]).
Very common on trunks of *Fagus silvatica.*

1220. **Quaternaria dissepta** (Fries) Tulasne, Syll. I [107], Wt. II [825], Syn: Sphaeria dis. Fries S. M. II [392].
Ulmus montana. J. Constantinsborg (Ø. W.); S. Charlottenlund, November.

Melogrammataceae.

Botryosphaeria.

The species of Botryosphaeria generally correspond to forms of Dothiorella (see v. Höhnel 11 a [464]), viz:

Botryosphaeria melanops corresp. Dothiorella advena.
— Berengeriana — — Berengeriana.

1221. **Botryosphaeria dothidea** (Fries) Ces. & de Not., Syll. I [456] (?), Wt. II [801], Syn: Sphaeria doth. Fries S. M. II [423], Botryosphaeria rosae (Fries) R 02 a [485] & 02 t, Dothidea rosae Fries S. V. [386], R 84 i.

On living stems and branches of *Rosa canina*. S. Gurre Ruiner, very destructive in hothouses near Copenhagen; L. Halsted; Falst. Næsgaard!; Møens Klint ($^{8}/_{8}$ 79); B. Dynddalen!, Bobbeaa!.

1222. **Botryosphaeria melanops** (Tul.) Wt. II [800] c. icon., Syn: Botryosphaeria advena Sacc., Syll. I [458] not Ces. & de Not.

On cortex of *Quercus robur*. S. Dyrehaven ($^{8}/_{4}$ 81 Sarauw).

Melogramma (incl. *Sillia*).

1223. **Melogramma ferrugineum** (Fries) Ces. & de Not., Wt. II [809], Syn: Sillia fer. Karsten, Syll. II [361], Sphaeria fer. Pers., Fries S. M. II [363], Schum. no 1324 (still in Schumacher's herb.), Sphaeria incurva Schum. no 1281, Fl. D. tab. 2332 fig. 3.

Corylus avellana. J. Gadholt!, Krabbesholm Skov!, Ørsløvkloster!; S. Charlottenlund ($^{9}/_{1}$ 81 Sarauw).

1224. **Melogramma Bulliardi** Tul., Wt. II [807], Syn: Sphaeria melogramma Fries S. M. II [420], Melogramma campylosporum Fries S. V. [386], Melogramma vagans de Not., Syll. II [144], Sortstreget Støvkugle (H. 37 [863]).

Carpinus betulus. B. Almindingen ($^{12}/_{8}$ 86, again Exc. $^{15}/_{5}$ 11).

1225. **Melogramma podoides** (Fries) Awd., Syn: Sphaeria scabrosa f. podoides Fries S. M. II [360], Diatrype podoides Fries S. V. [382], Melogramma spiniferum (Wallr.) de Not., Syll. II [145], Wt. II [808], Sphaeria tuberculata Schum. no 1304, Sphaeria spinosa Schum. no 1299, Fl. D. tab. 1311 fig. 2, "Sphaeria scabrosa de C." Fl. D. tab. 2038 fig. 1.

Very common on trunks of *Fagus silvatica* (R 80 a [120]).

Xylariaceae.

Nummularia.

1226. **Nummularia Bulliardi** Tul., Syll. I [396], Wt. II [847], Syn: Sphaeria nummularia Fries S. M. II [348].

On branches of *Fagus silvatica*. L. Lysemose.

Ustulina.

1227. **Ustulina deusta** (Fries)!, Syn: Sphaeria deusta Hoffmann, Fries S. M. II [345], Schum. no 1305, Fl. D. tab. 2152, Ustulina vulgaris

Tul., Syll. I [351], Wt. II [869] c. icon., Ustulina maxima (Haller) Schroeter, Boblet Frøekugle (Viborg 93 [273]), Sveden Støvkugle (H. 37 [858]), Kul-Sporekugle (R 69 [71]).

On diseased trunks and old stumps of *Fagus silvatica* very common. *Populus.* Amager (Nic. Hartz). *Acer pseudoplatanus.* F. Ejby (Schrøder). *Tilia europaea.* S. Hørsholm!, also found on *Carpinus, Ulmus, Fraxinus, Aesculus* (see R 80 a [178] & 02 a [486]).

Hypoxylon.

1228. **Hypoxylon concentricum** (Fries) Grev., Wt. II [866], Syn: Sphaeria conc. Bolton, Fries S. M. II [331], Schum. no 1347, Fl. D. tab. 2036 fig. 2, Daldinia conc. Ces. & de Not., Syll. I [393], Lit: R 02 a [487].

On different sorts of wood, *Betula, Alnus, Fagus, Tilia* etc. J. Viborg!; F. Fruens Bøge, Klingstrup, Skaarup; Langeland; S. Botanisk Have (Friederichsen), Roskilde (Rützou), Haslevgaard Skov (O. G. P.), Holstensborg (C. Meldahl). Also found in interglacial deposits by Ejstrup (Hartz 09 [228]).

1229. **Hypoxylon multiforme** Fries S. V. [384], Syll. I [363], Wt. II [857], Syn: Sphaeria mult. Fries S. M. II [334], Fl. D. tab. 2149 fig. 1, Sphaeria cinereo-fusca Schum. no 1306, Mangeformet Støvkugle (H. 37 [856]), Pude-Sporekugle (R 69 [72]).

Very common on dead trunks of *Alnus* and *Betula.*

1230. **Hypoxylon serpens** Fries S. V. [384], Syll. I [378], Wt. II [853], Syn: Sphaeria serp. Fries S. M. II [341] partim, Sphaeria undulata Schum. no 1302 (according to specimens in Schumacher's herbarium), Fl. D. tab. 2037 fig. 1.

On wood of *Populus.* S. Forsthaven ([13]/6 90 Rützou). *Crataegus oxyacantha.* B. Hammerskoven (Exc. [17]/5 11).

1231. **Hypoxylon fuscum** Fries S. V. [384], Syll. I [361], Wt. II [861], Syn: Sphaeria fusca Fries S. M. II [332], Schum. no 1316, Fl. D. tab. 2151 fig. 1, Sphaeria populi Schum. no 1317, Fl. D. tab. 2151 fig. 2 & tab. 2036 fig. 3, Sphaeria caudata Schum. no 1325 (according to specimens in Schumacher's herbarium), Fl. D. tab. 2155 fig. 2 (conf. Fries S. M. II [420]), Brun Sporekugle (R 69 [72]).

Very common on dead branches of *Populus, Alnus, Corylus, Fagus* and *Quercus.*

1232. **Hypoxylon fragiforme** (Fries)!, Syn: Sphaeria frag. Fries S. M. II [332], Schum. no 1320, Fl. D. tab. 2149 fig. 2, Sphaeria radiata Schum. no 1322, Sphaeria fragiformis Pers. f. radians Fries Fl. D. tab. 2157 fig. 2, Hypoxylon coccineum Bull., Syll. I [353], Wt. II [865], Jordbær-Sporekugle (R 69 [71]).

On trunks of *Corylus avellana.* F. Skaarup; Lang. Carlseje. *Fagus silvatica.* J. Dvergetved (V. S.), Thorsager Skov!; F. Tiselholt; S. Hornbæk Plantage (O. R.), Geelskov!, Dyrehaven (Raunkiær).

1233. **Hypoxylon rubiginosum** Fries S. V. [384], Syll. I [376], Wt. II [860], Syn: Sphaeria rub. Pers., Fries S. M. II [340], Rustbrun Støvkugle (H. 37 [857]).

Fagus silvatica. S. Basnæs Skov ([19/6] 92 O. R. see R 93 e).

1234. **Hypoxylon cohaerens** Fries S. V., Syll. I [361], Wt. II [858], Syn: Sphaeria coh. Pers., Fries S. M. II [333].

Fagus silvatica. F. Rugebjærg; S. Dyrehaven, Fredriksdal!, Sorø Vesterskov ([16/4] 81 Sarauw), Hæsede Rende; L. Stensgaard.

1235. **Hypoxylon crustaceum** (Sowerby) Nke., Syll. I [381], Wt. II [853], Sphaeria serpens Fries S. M. II [341] partim, Hypocrea crustacea Fries S. V. [384].

Fagus silvatica. S. Dyrehaven ([27/7] 74 Didrichsen).

1236. **Hypoxylon udum** Fries S. V. [384], Syll. I [386], Wt. II [852], Syn: Sphaeria uda Fries S. M. II [358] not Schum., Sphaeria ordinata Fries S. M. II [454].

On bare wood of *Quercus robur*. S. Charlottenlund (May 91 O. R.).

Xylaria.

1237. **Xylaria pedunculata** Fries S. V. [382], Syll. I [332], Syn: X. Tulasnei Nke., Wt. II [872].

On dung of mammals (Hansen 76 [340]), on dung of *Lepus*, S. Herlufsholm (O. R.).

1238. **Xylaria arbuscula** Sacc., Syll. I [337], Syn: Xyl. biceps Speg. Syll. I [315], Xyl. arbuscula var botryosa Rehm, Syll. X [526].

I see no reason for the maintaining of the said three species; all three descriptions equally fit the present specimens.

It has its origin in South Africa (Kamerun, Togo, Usambara), but is not uncommon in the hot-houses of botanical gardens (see Hennings 94 & 98, Vgr. 02 [179]).

On wooden vessels in the hothouses of the Botanical Garden at Copenhagen ([30/3] 86 E. R., again June 09! Exs. Rehm no 1912).

1239. **Xylaria digitata** (Fries) Grev., Syll. I [339], Wt. II [876], Syn: Sphaeria dig. L., Fries S. M. II [326], Fl. D. tab. 1306, Fingerformig Støvkugle (H. 37 [855]).

On timber. S. København (O. R.), Roskilde ([16/6] 78).

1240. **Xylaria hypoxylon** (Fries) Grev., Syll. I [333], Wt. II [872], R 02 a [487], Syn: Sphaeria hyp. Fries S. M. II [327], Schum. no 1346, Clavaria hyp. Linné, Holmskj. 90 [71], tab. 17, Sphaeria asperata Vahl, Fl. D. tab. 1258 fig. 2, Graaspidset Kolledrager (Viborg 1793 [269]), Den træede

Køllesvamp (Holmsk.), Fladtrykt Støvkugle (H. 37 [855]), Grenet Stødsvamp (R 69 [70]).

Very common on old stumps of many species of deciduous trees, found for the first time at Birkerød by Henrik Gerner (Fungus ramosus minimus instar dentium ovium variegatis ex albo et nigro. See Kylling 1688 [51]). Müller found it near Fredriksdal (1767 [226]).

1241. **Xylaria polymorpha** (Fries) Grev., Syll. I [309], Wt. II [878], R 02 a [487], Syn: Sphaeria pol. Pers., Schum. no 1344, Fries S. M. II [326], Sphaeria digitata Müller Fl. D. tab. 900 not Ehrh., Clavaria digitata Holmskjold not Linné, Xylaria clavata (Scop.) Schrank, Den fingrede Køllesvamp Holmskj. 90 [64], tab. 16, Sortfingret Kølledrager (Viborg 1793 [270]), Mangeformet Stødsvamp (R 69 [70]).

On timber and stumps of many different trees, for instance *Fagus, Acer, Aesculus, Fraxinus* etc., not uncommon.

1242. **Xylaria bulbosa** (Fries) Berk. & Br., Syll. I [340], Wt. II [875], Syn: Sphaeria bulb. Fries S. M. II [875].

On *Pinus silvestris*. F. Klingstrup ([20]/11 64 see R 66 [205]).

1243. **Xylaria Delitschii** Awd., Syll. I [336], Wt. II [874].

On fruits of *Carpinus betulus*. S. Fredriksdal (O. R.), København (O. R.).

1244. **Xylaria carpophila** Fries S. V. [382], Syll. I [336], Wt. II [873], Syn: Sphaeria carp. Pers., Fries S. M. II [328], Schum. no 1345, Fl. D. tab. 1858 fig. 1, Sylformig Støvkugle (H. 37 [852]).

On fallen cups of *Fagus silvatica*. F. Vejstrup Aaskov, Bjørnemose; S. Fredriksværk, Louiselund Mølleskov (Rützou); L. Stenskov.

Poronia.

1245. **Poronia punctata** Fries S. M. II [330], Syll. I [348], Wt. II [870] c. icon., Syn: Peziza punct. Linné, Müller 1767 [225], Fl. D. tab. 288, Sphaeria punct. Schum. no 1340, Patellaria coriacea (Bull.) Fries S. M. II [159], Prikket Skaallille (Viborg 1793 [271]), Prikket Støvkugle (H. 37 [856]), Piksvamp (R 69 [70] & 04 a [168] c. icon.).

Common on dung of *Equus* (Hansen 76 [301]); autumn, noticed from Læsø (J. P. J.), Anholt (O. Paulsen), J. (F. & W. 08), F., S. etc.

Basidiomycetes.

Hemibasidii.

Rostrup revised the Danish Hemibasidii (1890 e), a work very good for the age but now rather out of date. Strange to say this part of the fungi has not tempted modern mycologists so much to a monographical revision as have the Uredinales; we really need a thorough revision of these fungi. Lit. Magnus 95, Clinton 04, Schellenberg 11, E. & P. 00 [2].

Ustilago.

1246. **Ustilago isoëtis** Rostrup 05 b [306].

Soris dilute brunneis pulveraceis; sporis exacte globosis, 12—13 μ diam., episporio crasso, flavo-brunneo, subtiliter granulato-punctato.

In basi foliorum *Isoëtis lacustris*. J. Rold Skov, St. Øx Sø (Jak. Lge 1/10 1900).

1247. **Ustilago olivacea** (de C.) Tulasne, Syll. VII [463], R 90 e [142].

Carex riparia. J. Lerbæk Skov near Fredrikshavn (! 27/7 06 Exs. Sydow no 357); S. Ørsløv (18/6 87 see R 88 c); L. Søllested Mose.

1248. **Ustilago bromivora** (Tul.) F. de Wald., Syll. VII [461], Hejrebrand (R 02 a [220]), Lit. R 89 d, 93 m, P. N. 73 a [446].

June—Sept., quite common, is for the first time reported from Denmark by Fjelstrup in the year 1845 (see R 02 a).

Bromus commutatus. F. Ringe! *Bromus hordaceus*. S. Gisseløre. *Bromus hordaceus* var. *mollis*. F. Ringe!, Vejstrupgaard; S. Rørvig, Vangede, København, Ørslov (P. N.). *Bromus arvensis*. J., F., S.

Ustilago carbo Tul. Syn: Ust. segetum (Bull.) was for several years used as the common name of a whole group of species of Ustilago on the cereals and has often been mentioned by the more ancient agricultural authors from the very beginning of the awakening of interest in phytopathological matters as if it was one of the most

marked and destructive pests of the corn (see for instance Troyel 1790, Schøler 33). Fjelstrup made experiments for its prevention; he treated the grain of Hordeum with lime and describes (1817) how the fields in which was sowed treated corn were free from smut while the adjoining fields were very smutted. In 1875 P. Nielsen made experiments with Ustilago carbo proving that the spores of Ustilago nuda (& avenae?) cannot keep their germinating power from one year to another, hence the infection of the germinating plants is excluded (see P. N. 76 b & 77 b [14]).

It was, however, not until J. L. Jensen by a long series of field-experiments discovered the marked biological differences of Ustilago carbo that Rostrup resumed the question as a real scientific discussion finding that distinct morphological differences corresponded with the different biological differences; for this reason he divided the old species into five new ones; later on Wille (93) divided the smut on Avena into two species, and, at the same time as Rostrup (90 b) described the naked smut on Avena elatior as Ustilago perennans, Ellis and Tracy described the covered smut on the same host calling it Cintractia avenae (Journ. of Mycology 1890, Syll. IX [285]); later on the latter has been described by Appel & Gassner as Ustilago dura so that we have now altogether 7 species. At the same time as the European mycologists and independent of them Kellermann and Swingle (90) attained the same results. At the same time as Rostrup, Plowright had become aware of the presence of certain differences within this species, he writes (89 [69]): "The exosporium in Ustilago segetum has generally been regarded as smooth, but it is rather to be described as granular." The same question has for the last years been made the subject of discussion by the "Kaiserliche biologische Anstalt" in Berlin (see Appel 07 & 11) which has by new experiments proved the accuracy of J. L. Jensen's observations asserting the superiority of his preventives (the hot-water treatment) to those suggested by Brefeld and Kühn.

At present Ustilago carbo has been divided into seven different species of which three are covered smuts (Ust. hordei, Kolleri, dura). The colour of their spores is brown, and the exosporium is granular; the four other species (Ust. nuda, avenae, perennis and tritici) are naked smuts, the colour of their spores is black, and the exosporium is smooth. The promycelium of Ustilago nuda and tritici does not produce conidies (see R 90 b fig. 1 & 5) and will infect the host-plants while they are already blossoming (Jensen 87 b & 88 a, Rostrup 90 b [6]). Ustilago avenae and the covered species infect the germinating plants in the same manner as Tilletia tritici & levis and Urocystis occulta (see R 02 a [213], Appel 07 & 11).

1249. **Ustilago tritici** (Persoon) Jensen, Syll. IX [283], Syn: Uredo tritici Pers. Syn. [224], Hvedens Støvbrand (Jensen 88 c). Lit: R 90 b [15], 90 e [140], 92 f c. icon., 02 a [219], M. L. M. 09 [308] & June 1911.

June—July. *Triticum sativum*. F. Hundrup (Jak. Lge), Skaarup ([18]/6 62); S. Øresundshøj ("Molds hvide Hvede"), Lyngby (M. L. M.), København, Roskilde (Thomsen), Tystofte (A. Christensen); Falst. Stubbekøbing ("Red prolific."), also recorded in the sorts "Criewener" and "Wilhelmina".

1250. **Ustilago nuda** Rostrup 89 j [745], Syn: Ust. nuda (Jensen) Kellerm. & Swingle 90, Syll. IX [283], Ust. segetum var hordei f. nuda Jensen 88 a [61], Uredo segetum Pers. Fl. D. tab. 2150, Ust. hordei Brefeld non Persoon, R 90 b [10], 02 a [214] etc., Nøgen Bygbrand (Jensen 88 c), Lit: R 71 [19], 75 [23], 80 c, 89 j [745], 90 e [137], J. P. Jacobsen 79 etc.

July—August, very common; every spikelet of the smutted head is not always affected; adjacent leaves are occasionally smutted; noticed on many cultivated forms of *Hordeum sativum: distichon, hexastichon, zeocriton, trifurcatum* etc.

1251. **Ustilago hordei** (Pers.) Kellerm. & Swingle, Syll. IX [283], Syn: Uredo hordei Pers. Syn. [224], Ust. tecta R 89 j [745], Ust. Jensenii Rostrup 90 b [12], 90 e [138], Ust. segetum var hordei tecta Jensen 88 a, Dækket Bygbrand Jensen 88 c, R 02 a [215] c. icon. Lit: Wille 93 c. icon., R 92 f c. icon., Magnus 05.

F. Kølpin Ravn examined Persoon's herbarium in Leyden and stated that Uredo hordei Pers. is really this species (see M. L. M. 08 [148]). Rostrup thinks that the attacks of this species on Hordeum cause the heads to be ramified (R 85 a).

June—August, common on *Hordeum sativum distichon, hexastichon, hibernum* etc.

1252. **Ustilago avenae** (Persoon) Jensen, Syll. IX [283], Syn: Uredo avenae Pers. Syn. [224], Uredo segetum Pers., Schum. no 1577 part., Nøgen Havrebrand R 02 a [217] c. icon. Lit: R 90 b [13] c. fig., 90 e [139], Wille 93 c. icon.

July—September, common on *Avena sativa, orientalis, fatua, fatua* × *sativa*.

1253. **Ustilago Kolleri** Wille 93, R 02 a [219] c. icon., Syn: Ust. avenae var laevis Kellerm. & Swingle 90, Syll. IX [283], Ust. levis (K. & S.) Magnus 95, Dækket Havrebrand (R 02 [219] c. icon.).

July—September, on *Avena sativa, orientalis, strigosa, strigosa* × *patula* not uncommon.

1254. **Ustilago perennans** Rostrup 90 b [15], Syll. IX [293], Syn: Erysibe vera δ Holci avenacei Wallr. Fl. crypt. Germ. II [217], Draphavrebrand (R 90 e [139]).

Mycelio in rhizomate nutricis perennante, sporis globosis, levibus

vel vix asperulis; promycelio ad septa constricto ibique sporidiola gerente; sporidiolis dein utrinque germinantibus; cetera Ust. avenae (coll.).

It is rather common especially from June to Sept.; P. Nielsen has already made the observation that the form of Ustilago carbo occurring on Avena elatior was perennial in the host-plant (P. N. 73 a [446], 76 b [268]), it is also common in other countries for instance: Bavaria (All. & Schnabl: Fungi bavarici 301), Thuringia (Bornmüller), Bohemia (Vestergr. exsicc. no 702), Tyrol (Magnus 05 [31]), Switzerland (Schellenberg 11 [9]) etc.

Is is quite wrong when Clinton (04) and Schellenberg (11 [8]) state Cintractia avenae Ellis & Tracy as a synonym of Ustilago perennans Rostrup, they are two well separated species. Ustilago perennans is a naked species with granular episporium; Cintractia avenae has later on been described as Ustilago dura Appel & Gassner; it is a covered smut with smooth episporium and may, no doubt, also be found in this country on closer investigation.

Avena elatior. J. Farsø (H. Jensen), Viborg!, Horsens!, F. Tiselholt; S. Bidstrup!, København, Tystofte (P. N. & F. K. R.), Glænø (E. W.), Fodby; and many other places.

1255. **Ustilago longissima** (Sow.) Tul., Syll. VII [451], Syn: Ust. filiformis (Schrank) Rostrup 90 e [136], Lycoperdon filif. Schrank in Hoppes Bot. Taschenbuch 1793 [69] not Ust. filif. P. Henn., Syll. XVII [477], Sødgræssernes Støvbrand (R 93 c), Sødgræsbrand (R 02 a [220], 04 a [29]).

I consider it very dubious if Uredo culmorum Schum. no 1575 "in culmis foliisque graminum" may be classed under this species as proposed by Schellenberg (11 [23]); Schumacher's description may just as well refer to Puccinia graminis or Tilletia striiformis.

Rostrup made the observation that the cows will become ill after eating hay infected by this smut; the same observation has been made in Sweden (see Er. 00 b, Hedlund 08). Affected plants will seldom produce flowers (R 85 a).

Glyceria aquatica very common, f. inst.: Uggerby Aa (M. L. M.), Viborg (Gad), F., S., L. Maribo Sø ([5]/8 70) etc. *Glyceria plicata*, F. Skaarup. *Glyceria fluitans.* J. Fredrikshavn!, Skive!, Samsø Hjortholm (Exc. [27]/7 87); F. Skaarup; S., L., Møen Rudemark.

1256. **Ustilago grandis** Fries S. M. III [518], Syll. VII [453], Rørbrand (R 02 a [221] & 04 a [29]).

The mycelium is perennial in the host and prevents its flowering.

Arundo phragmites. J. Viborg Sø (Aug. 86 Gad, Sept. 99!), S. Østre Anlæg ([2]/8 87 and Dec. 95 O. R. see R 97 m [39]), Vordingborg (Baagøe).

1257. **Ustilago Rabenhorstiana** Kühn, Syll. VII [471].

Digitaria glabra, S. Nyraad (Aug. 86 Jeppesen see R 95 a [203]).

1258. **Ustilago sorghi** (Link) Passer., Syll. VII [456].

Sorghum vulgare. S. Landbohøjskolens Mark (Oct. 06 M. Larsen, again Oct. 09 O. R.).

1259. **Ustilago echinata** Schroeter, Syll. VII [470], Syn: Ust. verrucosa Vgr. 99 [165] non Schroeter, Ust. Baldingerae Vgr., Ust. Vestergrenii Sacc., Syll. XIV [413] see Syll. XVI [373].

Phalaris arundinacea. J. Bangsbo Aa ([21]/7 02! see R 05 b [307]).

1260. **Ustilago panici-miliacei** (Pers.) Wt., Syll. VII [454], Syn: Uredo segetum δ panici miliacei Pers., Syn. [224], Ust. destruens Schlecht., Hirsebrand R 02 a [221].

The spores of this species may preserve their germinating power for three years; K. Hansen kept seeds of Panicum in a dry place for such a period and then they produced smutted plants when they were sown (see R 99 c [115]).

Panicum miliaceum. S. Lyngby (K. H. Oct. 92 see R 93 c [628] & 94 f [36] again [3]/9 97).

1261. **Ustilago hypodytes** (Schlecht.) Fries, Syll. VII [453], Skedebrand (R 02 a [220]), Marehalmbrand (R 04 a [29]).

The mycelium of this species is perennial in the host-plant and prevents it from flowering. The forms on Triticum and Calamagrostis are possibly to be considered as two distinct species (see Plowright in Gard. Chron. XIII 1893 [425]).

Calamagrostis arenaria. J. Skagen!, Tværsted. *Calamagrostis arenaria* × *epigejos*. Fanø (P. N.). *Hordeum arenarium*. J. Skagen (E. W., Porsild, O. R., L. K. R.), Højen (M. L. M), Tannishus!, Aalbæk, Jerup (O. R.), Strandby, Grenaa (Exc. [2]/8 92), Fanø (P. N. & Gelert), Anholt (common see O. Paulsen 98 [282]), Samsø (Exc. [26]/7 87); F. (Exc. [13]/7 72); S. Hornbæk (H. M.), Køge. *Triticum repens*. J. Løgstør (Hein); F. Odense, Nyborg; Vresen; Lang. Faarevejle ([28]/6 70); S. Fredriksværk, Hummeltofte, Korsør & Espe (F. K. R.), Ørsløv (P. N.), St. Hedinge (K. H.), Hammer (Jak. Lge). *Triticum junceum* × *repens*. J. Strandby (R 90 e); S. Lindersvold.

1262. **Ustilago ornithogali** (Schmidt & Kunze) Magnus, Syll. VII [452], R 90 e [141], Syn: Ust. umbrina Schroeter.

April—May, most frequently in company with Uromyces gageae. *Gagea lutea*. J. Viborg (Gad); F. Ringe!, Vejstrup Aaskov (R 79 [24]); Lang.; S. Fortunen, Boserup (Thomsen); B. *Gagea minima*. S. Ledreborg ([13]/5 68 Thomsen). *Gagea spathacea*. F. Skaarup.

1263. **Ustilago Vaillantii** Tulasne, Syll. VII [465], R 02 a [221].

The mycelium is perennial in the host-plant, Jakob E. Lange has stated its presence in the anthers of *Scilla bifolia* in a garden near Dalum for 17 years, without infecting other species of Scilla growing close by (see R 92 g [66]), April.

1264. **Ustilago Parlatorei** F. de W., Syll. VII [474], R 90 e [143], Skræppebrand (R 04 a [29]).

Rumex limosus. F. Ore Gadekær ([12]/7 77). *Rumex maritimus.* L. Lidsø (Exc. [5]/8 84).

1265. **Ustilago Kühneana** Wolff, Syll. VII [474].

In living leaves of Rumex, May—Septemb. *Rumex acetosella.* J. Flade (M. L. M.); S. Lyngby ([25]/5 06 M. L. M.).

1266. **Ustilago utriculosa** Tulasne, Syll. VII [476], Pileurtbrand (R 04 a [28]).

Polygonum aviculare. J. Fredrikshavns Gader (C. H. O.). *Polygonum calcatum.* J. Fredrikshavn (C. H. O.). *Polygonum hydropiper.* J. Gaardbogaard (Jørg. Larsen), Skaarupgaard (V. S.); S. Ravnsholte (O. R.). *Polygonum tomentosum.* Læsø (J. P. Jac. 79); J. Fredrikshavn!, Skaarupgaard (V. S.), Klitmøller, Staby (Jeppesen), Dollerup (Gad); F. Klingstrup ([23]/8 64); S. Rudersdal, Charlottenlund, Gammelmosen (R 06 cc [356]), Botanisk Have (Raunkiær), Glostrup, Kirkeværløse (O. R.); B. Rømersdal (R 06 dd [372]). *Polygonum persicaria.* S. Næstved (Jeppesen); B. Vallensgaards Mose.

1267. **Ustilago anomala** Kunze, Syll. VII [478], R 90 e [145].

Polygonum convolvulus. J. Hulsig (C. H. O.), Staby (Jeppesen); Fanø Sønderho!; F. Ringe!, Vejstrup Aaskov, Ø. Aaby; Amager Kløvermark. *Polygonum dumetorum.* F. Svenborg (Exs. Thüm. Myc. no 1317 & Roum. no 4620); S. Charlottenlund (Drejer).

1268. **Ustilago violacea** (Pers.) Gray, Syll. VII [474], R 90 e [140], Syn: Uredo violacea Pers. Syn. [226], Ustilago antherarum Fries S. M. III [518], Nellikebrand (R 04 a).

Quite common, June—Septbr. The infection takes place both through the anthers, the pistil, young shoots and germinating plants (see Werth 09, 10, 11); the mycelium penetrates the whole host-plant, hibernates in it and causes many curious deformations of it which has often made the florists describe the attacked plants as new forms, viz: Stellaria uliginosa "forma apetala" (Lge 86 [673], R 05 b [307]), Dianthus superbus "forma micropetala Lange" (86 [683]) or "micranthos" and Melandrium album "var. hermaphrodita" (see R 85 a).

Stellaria holostea. J. Ørsløvkloster!, Hobro (F. K. R.); F. Thorseng; S. Jægerspris (E. W.), Charlottenlund, Kallundborg (Exc. [16]/6 00); Møen Ulfshale; B. Almindingen. *Stellaria uliginosa.* J. Himmelbjerget!. *Stellaria palustris.* S. Botanisk Have (O. R.). *Melandrium album.* J. Viborg!; F. Odense Fjord, Brudager, Svenborg (June 62); S. Rørvig, Fredriksværk (E. W.), Ermelunden (Raunkiær). *Melandrium rubrum.* S. Folehave (R 96 m [130]). *Coronaria flos cuculi.* J. St. Vildmose; F. Oure & Magaard; S. Lyngby Mose (E. W.), Gammelmosen (R 06 cc [356]), Svenstrup (R 97 n); B. Almindingen. *Viscaria viscosa.* J. Bælum (L. Hammer). *Dianthus deltoides.* F. Haastrup (Jak. Lge); S. Jernet; B. Hammershus. *Dianthus superbus.* Møen Ulfshale Skov (Aug. 53 Holst, [8]/9 93 see R 95 a [203]).

1269. **Ustilago major** Schroeter, Syll. VII [477].

Silene otites. J. Blaavand (F. K. R. see E. W. 03 [68]); Fanø ([8]/8 79 P. N. again [12]/7 93 E. W. 94 [62]).

1270. **Ustilago pinguiculae** Rostrup 90 e [144], Syll. IX [282].

Soris pallide rufo-violaceis, sporis subhyalinis, tenuiter reticulatis, globosis, 5—6 μ diam. vel ovoideis 7—8 μ × 6 μ. In antheris.

Is much like the two preceding species, the spores occur in the anthers in June—July, and the mycelium is perennial in the host-plant. No doubt it is quite common but rather inconspicuous. Abroad it has been recorded from Norway (Alten see Vgr. 02 [178]), Sweden (Gotland see Juel 96 [223] & Vgr. 00 b) and Russia (Oesel see Vgr. 03 [99]). Winter (Hedwigia 1878 [98]) and Schellenberg (11 [54] c. icon.) have found it in many places in Switzerland on Pinguicula alpina while P. vulgaris growing close by was not infected, accordingly there seems to be more form. spec. within this species.

Pinguicula vulgaris. J. Bjerget i Thy (E. W. [20]/7 88), Rindsholm!.

1271. **Ustilago intermedia** Schroeter, Syll. VII [476], R 90 e [144].

In the anthers of *Scabiosa columbaria,* Møen Aborrebjerget ([8]/8 79).

1272. **Ustilago scabiosae** (Sow.) Wt., Syll. VII [475], R 90 e [144], Skabiosebrand (R 04 a [28]).

In the anthers, July—August. *Knautia arvensis.* F. Holmdrup ([19]/7 64); S. Tisvilde, Hornbæk; B. Hammershus.

1273. **Ustilago cardui** F. de W., Syll. VII [477], R 90 e [146], Tidselbrand (R 04 a [29]).

In the heads of *Carduus acanthoides.* B. Listed, Svaneke & Nekso (R 06 dd [372]).

1274. **Ustilago scorzonerae** (A. & S.) Schroeter, Syll. VII [478], R 90 e [146].

Scorzonera humilis. S. Jonstrup Vang (June 65 H. M., again [26]/5 89 E. W. and [5]/6 96), Vallensbæk Mose (C. H. O.).

1275. **Ustilago tragopogonis pratensis** (Pers.) Wt., Syn: Uredo tragopogi pratensis Pers. Syn. [225], Uredo tragopogi Schum. no 1579, Ustilago tragopogi Schroeter, Syll. VII [477], R 90 e [145], Ustilago receptaculorum Tul., Gedeskægbrand (R 04 a [28]).

The mycelium of this species as also of the above-mentioned one penetrates the host-plant causing it to be lower in growth and most frequently to produce only one head. Not uncommon from May—August.

Tragopogon porrifolius. S. Landbohøjskolens Have (R 95 a [203]), Vordingborg (Jeppesen). *Tragopogon pratensis.* J. Skive!, Viby (A. Lge), Friesholt (H.M.); F. Vejstrup ([8]/6 64), Tved; S. Landbohøjskolens Mark (F. K. R.); B. Olsker.

Sphacelotheca.

1276. **Sphacelotheca hydropiperis** (Schum.) de By., Syll. VII [499], R 90 e [126] c. icon., Syn: Uredo hyd. Schum. no 1580, Vandpeberens Brandstøv (H. 37 [913]).

In the fruit of *Polygonum hydropiper*. J. Skaarup Mølle (V. S.), Staby (Jeppesen); F. Klingstrup, Skaarup, Svenborg; S. (Schum.).

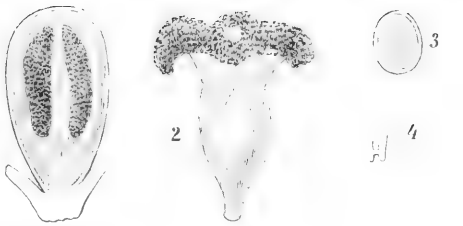


Fig. 17. Sphacelotheca hydropiperis. 1—2 Section through a close and on open fruit. $\frac{6}{1}$. From de Bary. 3. Resting-spore. $\frac{600}{1}$. 4. Basidiospores. $\frac{600}{1}$. From R 90 e.

Cintractia.

1277. **Cintractia luzulae** (Sacc.) Clinton 02, Syn: Ustilago luz., Syll. VII [463], R 90 e [141], Frytlebrand (R 04 a [28]).

The stems of the affected plants remain upright till far on in the autumn long after the fading of the sound stems. "Luzula pilosa var prolifera Doell" is nothing but Luzula pilosa affected by this fungus (see Lange 86 [171], R 85 a).

Luzula pilosa. J. Dal Skov (M. L. M.), Haven Skov (July 53 M. Lange), Hansted (Jeppesen), Bredstenlund (Jeppesen), Greisdalen (Joh. Lge); Fænø; F. Boltinggaard!, Holmdrup, Skaarup; S. Tisvilde, Fredriksdal (Blytt).

1278. **Cintractia subinclusa** (Kke.) Magnus 95, Syn: Ustilago sub. Kke., Syll. VII [472], R 90 e [142].

Carex pseudocyperus. S. Folehave (O. R.). *Carex riparia*. J. Lerbæk Skov (! Exs. Sydow no 357); S. Skarridsø (R 97 m [39]), Ørsløv ([18]/6 87 see R 88 c). *Carex acutiformis*. S. Folehave (O. R.).

1279. **Cintractia caricis** (Pers.) Magnus, Syn: Uredo car. Pers. Syn. [225], Fl. D. tab. 1437 fig. 1, Ustilago car. Unger, Syll. VII [464], R 90 e [141], Ust. urceolorum Tul., Uredo carpophyla Schum. no 1578, Starbrand (R 04 a [28]).

In the fruit of Carex June—August, common especially in Jutland. *Carex arenaria*. J., Anholt (O. Paulsen 98 [282]), Thurø, S., L. *Carex stellulata*. J. Hulsig!, Gaardbogaard (O. R.), Birgittelyst (Gad), Staby (Jeppesen); S. Lynge Kro (A. Lge); B. Paradisbakkerne. *Carex stricta*. J. Damgaard (J. P. F. Bang). *Carex Goodenoughii*. J. Skagen!, Hulsig!, S. Tisvilde. *Carex trinervis*. Fanø (Jeppesen). *Carex limosa*. S. Lyngby Mose ([18]/8 50 & [13]/9 93 F. K. R.). *Carex glauca*. Læsø (J. P. Jac. 79); J. Klitlund (M. L. M.), Trelde Skov (Exc. [24]/7 88); L. Stensgaard; Møens Klint (Thomsen). *Carex panicea*. J. Hulsig!, Tolne!, Aalborg!; F. Kirkeby; S. Roskilde; B. Nexø. *Carex pilulifera*. J. Tolne!; Rosborg Aa!, Utoft; F. Helager (Exs. Thüm. Myc. no 819); S. Hornbæk, Fredriksværk, Præstø (O. R.), Skjelskør!.

1280. **Cintractia Montagnei** (Tul.) Magnus 95.
Rhynchospora alba. J. Raabjerg (O. R.), Fugl Sø near Vejle (Jeppesen); S. Næstved (Jeppesen).

Tolyposporium.

1281. **Tolyposporium junci** (Schroeter) Wor., Syll. VII [501], R 90 e [155] c. icon.
Juncus bufonius. J. Viborg (! Exs. Syd. no 773), Sveibæk; F. Brudager, Klingstrup, Vejstrup Aaskov (R 79 [12]), Skaarup ([21]/8 74); S. Gammelmosen (R 06 cc [356]), Bøssevænget near Næstved (Jeppesen).

Fig. 18.
Tolyposporium junci.
Germinating resting-spores

1282. **Tolyposporium montiae** Rostrup 04 a [31], Syn: Sorosporium montiae R 96 m [128], Syll. XIV [428], Vandarvebrand (R 04).
Sori atri; glomeruli fusci, subglobosi v. irregulares, diam. 60—80 μ, e sporis numerosis constituti; sporae breviter ellipsoideae, 5—8 μ l., brunneae, leves, difficile secedentes; promycelium filiforme, septatum.
It is also found in the Færöes (see R 01 n [306]) and in Norway (see Vgr. 02 [174]), in both places on Montia rivularis.
In the leaves and stems of *Montia minor*. J. Juelsminde (C. H. O.); Amager Fælled (June 94 C. H. O., again [8]/6 04 C. H. O. and [5]/6 05 O. R.); B. Bodilsker ([20]/6 67 Bergstedt).

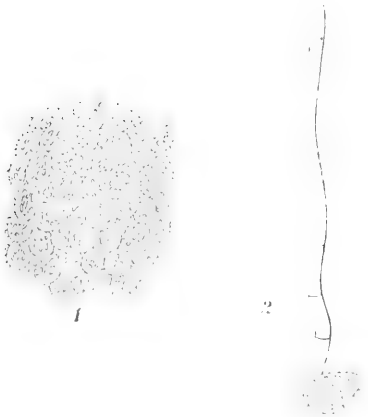


Fig. 19. Sorosporium saponariae.
1. Resting-spores. $\frac{300}{1}$. 2. Germinating resting-spore. $\frac{500}{1}$. From R 90 e.

Sorosporium.

This genus and the two following ones have by Schellenberg (11) been considered as belonging to Tilletiineae, but Dietel (E. & P. 00) and Lindau (08 [313]) class them among Ustilagineae. Schroeter (89 [266]) has classed the genera Thecaphora, Sorosporium and Schroeteria in one suborder: Thecaphorei co-ordinated with Tilletiei under Tilletiineae. Rostrup will not recognise the necessity of dividing Hemibasidii into sub-divisions (R 02 a [211]).

1283. **Sorosporium saponariae** Rudolphi, Syll. VII [511], R 90 e [158] c. icon.

The mycelium is perennial in the host (see Plowr. 89 [60]) and the spores are found in the flowers May—July.

Dianthus deltoides. Samsø Hjortholm (Exc. [27/5] 87); F. Bjørnemose Skovmølle ([25/7] 83, Exs. Thüm. Myc. no 2225 & Roum. no 5019). *Silene venosa*. S. Lyngby (! Exs. Sydow).

Schroeteria.

1284. **Schroeteria Delastrina** (Tul.) Wt., Syll. VII [500], R 90 e [149] c. icon.

In the capsules of *Veronica arvensis*. F. Tved ([23/6] 81), Christiansminde.

Fig. 20. Schroeteria Delastrina. Germinating resting-spores. $\frac{300}{1}$. From Brefeld.

Thecaphora.

1285. **Thecaphora aterrima** Tul., Syll. VII [508], Syn: Tolyposporium at. Dietel, E. & P. 97 [14].

The mycelium penetrates the whole plant causing several deformations, the stems get shorter and remain upright long after the fading of the sound stems. Species of Carex which are otherwise heterostachuous grow homostachuous on account of the attack of the fungus or all flowers grow hermaphrodite; such plants have been described as Carex Linkii Thomas.

Carex pilulifera. J. Fredrikshavn ([12/7] 02 C. H. O. see R 05 b [307]), Boddum (F. Michelsen), Astrup (E. W.), Hagens Mølle!, Rosborg Aa (Exs. Sydow no 367), Mariager!, Fusingø (Lind 04).

1286. **Thecaphora deformans** Dur. & Mont., Syll. VII [509], Syn: Thec. affinis Schneider, Syll. VII [510], R 90 e [157], Thec. lathyri Kühn, Syll. VII [509], Thec. astragali Woronin (see Clinton 04 [421]), Astragelbrand (R 04 a [31]).

On Astragalus have hitherto only been found resting-spores which fill the pods causing them to be shorter and thicker than the normal ones; on Trifolium has hitherto only been found the conidial stage which attacks the anthers of all flowers of the head; according to Clinton's account (04 [421]) we might, however, be justified in considering it a single species or, at any rate, biological forms of a single species.

Astragalus glycyphyllus. J. Vejle Nørreskov; Fænø; F. Fyenshoved, Skaarupør (Exs. Thüm. Myc. no 2224 & Roum. no 4725), Svenborg ([25/7] 83); Thurø; S. Lyngby!; L. Juellinge; Møens Klint. *Trifolium pratense*. S. Lyngby (M. L. M.), Tystofte (Frandsen).

1287. **Thecaphora hyalina** Fingerhut, Syll. VII [508], Syn: Thec. convolvuli (Desm.) Rostrup 90 e [157], Ustilago capsularum Fries S. M. III [519], Snerlebrand (R 04 a [30]).

Rostrup has examined this species very closely (R 98 b); he found the mycelium to penetrate the whole host-plant producing conidia in all the anthers (in July—August). The conidial stage has been described under the name of Gloeosporium antherarum Ouds; Syll. XVI [998], All. VII [948]. In August—Septb. the resting-spores are found in the capsules.

Convolvulus arvensis. F. Bjørnemose, Klingstrup ([28]/8 80); S. Tisvilde, Klinten in Odsherred, København; Am. Kastrup Mølle; L. Stensgaard.

Tilletiineae.

Tilletia.

Massee (01) has given rather an unsatisfactory monograph of this genus.

1288. **Tilletia sphagni** Nawaschin, Syll. IX [286].

Sphagnum mucronatum. S. Lerbjerg Mose near Hvalsøe ([5]/9 89 C. Jensen see R 05 b [307]).

1289. **Tilletia holci** (West.) Rostrup 99 a [256], Syn: T. Rauwenhoffii F. de W. 77 [50], Syll. VII [484], Hestegræs-Stinkbrand (R 04 a [29]), Fløjlsgræs-Brand (Dorph-Petersen 09 [732]), Lit: R 02 a [223], Lind 05 [428], Aarsberetning fra Dansk Frøkontrol 1897—98 [28].

Holcus lanatus. F. Lykkesholm Skov (! see R 99 c [126]). *Holcus mollis.* J. Livø (Exc. [25]/7 10), Skive (! Exs. Sydow no 372 & Vgr.); F. Lykkesholm Skov!, Ryslinge (! [15]/7 97); S. Snekkersten, Virum Mose (O. R.).

1290. **Tilletia decipiens** (Pers.) Kke., Syll. VII [482], R 90 e [148], Syn: Uredo segetum f. decipiens Pers. Syn. [225], Till. sphaerococca F. de W., Hvenebrand (R 93 c [51], 02 a [223]), Hvenens Stinkbrand (R 04 a [29]).

The mycelium penetrates the whole host-plant causing the affected plants to be dwarfish; such plants have been described as Agrostis pumila L. (Fl. D. tab. 1802, see also Lange 51 [60], R 85 a, 95 n, 96 m [130]).

Agrostis canina. J. Gaardbogaard (O. R.); Samsø Brattingsborg (Thomsen). *Agrostis vulgaris.* J. Gaardbogaard (O. R.), Klitmøller, Feggeklit (Exc. [24]/7 10), Vilsted (Th. Jensen), Løgstør Kanal (Th. Jensen), Aalborg Signalbakke, Hammerum (Joh. Lge), Vejle; S. Tikøb; Glæno ("Ustilago carbo" P. N. 73 a [446]); L. Gottesgabe (July 63). *Agrostis alba.* J. Haraldstedlund (Joh. Lge); S. Roskilde (Thomsen).

1291. **Tilletia separata** Kunze, Syll. VII [483].

In the fruit of *Agrostis spica venti*. L. Stensgaard ([22]/7 95 in abundance, see R 97 m [39]).

1292. **Tilletia caries** (de Cand.) Tul., R 90 [147] c. icon., Syn: Til. tritici (Bjerk.) Wt., Syll. VII [481], Uredo sitophila Ditm., Stenbrand (Ørsted 63 c [12] & [69] c. icon.), Hvedebrand (P. N. 73 a [353]), Hvedens Stinkbrand (R 69 [26], 71 [16] c. icon., 92 f c. icon., 93 c [49] c. icon., 02 a [222] c. icon., 04 a [29]).

Is mentioned in several places of the modern and ancient agricultural literature. I suppose Troyel to be the first to mention it in 1791 [42]; the treatment of the grain is described by Abraham Olsen 1791, Høegh 1797 [118], Schøler 1807 & 15, Fjelstrup 17, Niels Remmer 18, P. Nielsen 73 b [73], 75 a [29], 76 a; concerning a most destructive attack on the wheat in 1840 see Drejer & Liebman 1840 c. icon.; on disease of the cattle caused by their eating smutted fodder see Oppermann 79; concerning the appearance of the disease during the later years see for instance M. L. M. (June 11) etc.

Very common on *Triticum sativum* in all parts of the country, July—Aug.

1293. **Tilletia foetens** (Berk. & Curt.) Trelease, Syn: Til. levis Kühn, Syll. VII [485].

Only found on *Triticum sativum* f. *aestivum*. S. Lyngby (abundantly [6]/9 98 K. H. see R 99 a [257], 99 d [40], 02 a [223]).

1294. **Tilletia controversa** Kühn, Syll. VII [483].

Triticum repens. J. Feggeklit (Exc. [24]/7 10), Skive (! Exs. Syd. no 394, R 05 b [307]); B. (Aug. 77 Bergstedt), Læsaaen (O. R.).

1295. **Tilletia lolii** Awd., Syll. VII [483], R 90 e [148] & 02 a [225], Rajgræssets Stinkbrand (R 04 a [29]).

Lolium temulentum. J. Skagen (abundantly P. N. 73 a [446]). *Lolium remotum*. J. Mols; S. Snedinge ([2]/7 72 P. N.); Møen Aalebæk (P. N.).

1296. **Tilletia striiformis** (West.) Ouds., Syll. VII [485], R 90 e [148], Magnus 95, Syn: Ustilago str. Niessl, Schellenberg, 11 [33], Tilletia de Baryana F. de W., T. milii Fuck., T. brizae Ule, Syll. VII [487], T. alopecurivora Ule, Syll. VII [487], T. airae caespitosae Liro 04 [15], Græssernes Stinkbrand (R 04 a [30]).

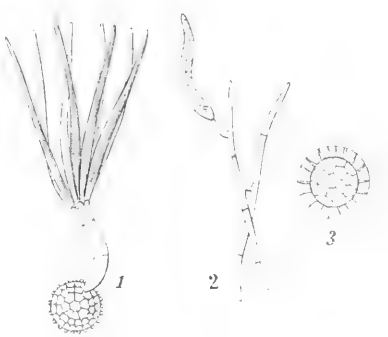


Fig. 21. Tilletia caries & controversa.
1. Tilletia caries. Germinating resting spore. $\frac{300}{1}$. From Brefeld. 2. 2 basidio spores producing a conidium. $\frac{400}{1}$. 3. Tilletia controversa. Resting spore. $\frac{400}{1}$.

It has not yet been proved whether all the said forms are really to be joined into one species, still, such morphological differences as might condition a difference of species do not occur.

The attack of this smut prevents the grasses from flowering (R 85 a).

The mycelium is perennial in the host and attacks all the species of every leaf originating from the same root.

Holcus lanatus. J. Skovsgaard near Viborg!. *Holcus mollis.* J. Rimmen!, Odder!, Gedved (Jeppesen); F. Skaarup (Exs. Thüm. Myc. no 1020), Holmdrup ($^{13}/_{7}$ 69); S. Nærumgaard!, Lyngby (K. H.). *Aira caespitosa.* J. Gaardbo Sø (O. R.). *Milium effusum.* F. Ringe!, Skaarup, Svenborg, Hvidkilde, S. Svenstrup (R 97 n). *Agrostis alba.* F. Nyborg (Jak. Lge).

1297. **Tilletia aculeata** Ule, Syll. VII [487].

In the leaves and sheaths of *Triticum repens.* J. Skive!, F. Odense Kanal!, Hjallese (Jak. Lge); S. Lyngby ($^{8}/_{7}$ 98 K. H. see R 99 a [257]).

1298. **Tilletia calamagrostidis** Fuckel, Syll. VII [485].

In the leaves of *Calamagrostis epigejos.* S. Fredriksværk norske Bakke (July 90 see R 92 g [66]).

Entyloma.

1299. **Entyloma crastophilum,** Sacc., Syll. VII [491], R 90 e [133], Schellenberg 11 [110]. See tab. V fig. 62.

Is very closely connected with Entyloma hieroense Har. & Pat. 04, Syll. XVII [483] and Entyloma irregularis Johanson 84.

Festuca rubra. F. Christiansminde. *Poa bulbosa.* B. Gudhjem. *Holcus lanatus.* F. Skaarup. *Avena pubescens.* J. Tapdrup!. *Agrostis vulgaris.* J. Feggeklit (Exc. $^{24}/_{7}$ 10). *Cynosurus cristatus.* F. Vængemose ($^{16}/_{9}$ 82), Bjørnemose.

1300. **Entyloma catenulatum** Rostrup 90 e [133], Syll. IX [287]. See tab. V fig. 61.

Maculis griseis oblongis, 1 mm longis; sporis ellipsoideis 6—7 µ × 5 µ, rarius globosis, atro-brunneis, saepe in catenulas connexis. Distinguished from the preceding by the much smaller spores.

Aira caespitosa. F. Skaarup ($^{24}/_{4}$ 70).

1301. **Entyloma ossifragi** Rostrup 90 e [133], Syll. IX [287]. See tab. V figg. 59 & 60.

Maculis griseis, saepe subrectangularibus, ad 4 mm diam. Sporis subglobosis, 9 µ diam. membrana brunnea.

Narthecium ossifragum. J. Silkeborg Vesterskov Afd. Dybdal 86 d ($^{17}/_{9}$ 85).

1302. **Entyloma ranunculi** (Bon.) Schroeter, Syll. VII [488], R 90 e [130], Vorterodbrand (R 04 a [26]).

Its conidial stage is called Fusidium leptospermum Pass. (see Höhn. 06 a).

Ranunculus acer. F. Skaarup. *Ranunculus repens.* J. Feldborg, Viborg!. *Ranunculus ficaria* very common. May. *Ranunculus sceleratus.* J. Skive!; F. Svenborg; S. Søborg (Exc. [14]/6 84), Holte, Lyngby; B. Svaneke; and many other places, June.

1303. **Entyloma microsporum** (Unger) Schroeter, Syll. VII [493], Syn: Ent. Ungerianum de By., R 90 e [133], Ranunkelbrand (R 04 a [26]).

Ranunculus repens. J. Fredrikshavn (V. S.), Krabbesholm Skov!; F. Hjallese (Jak. Lge), Holmdrup ([2]/6 76); Thorseng Nørreskov; S. Sorgenfri, Søndermarken, Næstved Bøssevænge (Jeppesen).

1304. **Entyloma fuscum** Schroeter, Syll. VII [488], R 90 e [130], Valmuebrand (R 04 a [26]).

June—September. *Papaver dubium.* J. Løgstør!; F. Bjørnemose; S. Charlottenlund, Hammer!.

1305. **Entyloma glaucii** Dangeard, Syll. XI [234], Zahlbruckner 06.

Glaucium luteum. J. Kaas Strand (abundantly [26]/8 99! again [11]/9 04! Exs. Syd. no 364 & Vgr. no 874 see R 05 b [307]).

1306. **Entyloma corydallis** de By., Syll. VII [489], R 90 e [130], Lærkesporebrand (R 04 a [26]).

Corydallis cava. S. Boserup, Sorø!, Hammer!; B. Svaneke (Exc. [15]/5 11).

1307. **Entyloma chrysosplenii** (B. & Br.) Schroeter, Syll. VII [491], R 90 e [131], Milturtbrand (R 04 a [27]).

May occur both in spring (May—July) and in autumn (November); v. Höhnel states (05 [402]) that it is identical with "Exobasidium Schinzianum Magnus" found on leaves of Saxifraga rotundifolia.

Chrysosplenium alternifolium. J. Bangsbo (V. S.), Krabbesholm Skov!, Viborg!, Rindsholm, Lee Skov!, Tamdrup!, Søvind!; F. Klingstrup Søskov ([11]/5 78 Exs. Thüm. Myc. no 1516), Skaarup; S. Herlufsholm (O. R.); Møen Klinteskov.

1308. **Entyloma Henningsianum** Sydow 1900, Syll. XVI [375]. See tab. V figg. 57 & 58.

On the leaves of *Samolus valerandi.* J. Nørrestrand near Horsens (! [27]/9 01 see R 05 b).

1309. **Entyloma Fergussonii** (B. & Br.) Plowr., R 90 e [131], Syn: Ent. canescens Schroeter, Syll. VII [488], Forglemmigejbrand (R 04 a [27]).

Quite common on living leaves of Myosotis, April—Sept. *Myosotis versicolor.* J. Viborg!. *Myosotis silvatica.* F. Skaarup. *Myosotis arvensis.* J. Viborg!, Gedved (Jeppesen); F. Skaarup ([11]/5 78). *Myosotis caespitosa.* F. Klingstrup (Johanson). *Myosotis palustris.* J. Bangsbo Skov!; F. Skaarup (Exs. Thüm. Myc. no 1712).

1310. **Entyloma serotinum** Schroeter, Syll. VII [487], R 90 e [131], Kulsukkerbrand (R 04 a [27]).

Symphytum officinale. Falst. Stubbekøbing ([15]/8 83).

1311. **Entyloma linariae** Schroeter, Syll. VII [491], Torskemundbrand (R 04 a [27]).

Linaria vulgaris. Læsø!; J. Viborg!, Gedved (Jeppesen); F. Vængemose (Johanson), Bjørnemose; Thorseng Valdemarslot (Johanson [11]/9 82).

1312. **Entyloma picridis** Rostrup in Fischer de Waldheim: Zur Kenntniss der Entyloma-Arten. Bull. Soc. nat. de Moscou 1877 [3], Syll. VII [492], R 90 e [132]. See tab. V fig. 63.

Out of Denmark it has been found for instance in Thuringia (Sydow. Mycot. germ. no 776), Oberammergau (All. & Schnabl: Fungi bav. no 304) and in Switzerland (see Schellenberg 11 [121]).

Picris hieracioides. F. Christiansminde ([13]/7 76 Exs. Thüm. Myc. no 1815); Falst. Stubbekøbing.

1313. **Entyloma matricariae** Rostrup in Thüm. Myc. no 2223 (1884), Syll. VII [490], R 90 e [131], Syn: Ent. matricariae Trail in Plowr. 89 [291], Ent. Trailii Massee, Syll. XI [233] (see Magnus 95), Kamillebrand (R 04 a [27]). See tab. V figg. 64, 65 & 66.

The original specimens were found by C. J. Johanson near Upsala. The species seems to be very common in Denmark and in the neighbouring realms as well; it seems to be limited to this single host; I have also found the 3—4 septated conidia, described by Trail, on Danish specimens so I do not doubt of the identity of Rostrup's and Trail's homonymous species.

Matricaria inodora. J. Gedved (Jeppesen); F. Dalum (Jak. Lge), Hesselager, Skaarup ([5]/10 82); S. Lyngby (! Exs. Syd. no 391), Fredriksholm (R 97 m [39]); Amager!.

1314. **Entyloma achilleae** Magnus 00 [8], Syll. XVI [376].

Achillea millefolium. J. Gedved (Jeppesen see R 97 m [39]); S. Charlottenlund ([14]/10 84); Am. Kastrup Molle, Geværfabrikken!.

1315. **Entyloma bellidis** Krieger, Syll. XIV [424].

The form of Bellis may possibly be an autonomous species, after all it is very difficult at present to state the true limitation of all the species of Entyloma found on Compositae; the small differences appearing in the descriptions of the various authors are, no doubt, owing to their having had too little material for their examinations.

Bellis perennis. F. Skaarup; L. Stensgaard.

1316. **Entyloma calendulae** (Ouds.) de By., Syll. VII [492], R 90 e [132], 02 a [227], Kurveblomstbrand (R 04 a [27]).

Calendula officinalis very common May—Decbr. (Exs. Thüm. Myc. no 1422). *Erigeron acer*. J. Hadsund; L. Nakskov Fjord. *Arnoseris minima*. J. Silkeborg Vesterskov. *Hieracium pilosella*. J. Løgstrup!. *Hieracium murorum*. S. Botanisk Have. *Hieracium vulgatum*. J. Viborg!; S. Næstved (Jeppesen). *Crepis biennis* (hosp. nov.). F. Svenborg (P. N.). *Leontodon hispidus*. F. Klingstrup.

Melanotaenium.

1317. **Melanotaenium ari** (Cooke) Lagerheim, Syn: Ustilago plumbea Rostrup in Thüm. Myc. 1876, Syll. VII [458], Melanot. plumbeum (R) Pirotta in Nuova Giornale bot. italic 1889, R 90 e [135] (see Lind 07 b).

Its mycelium winters in the subterranean parts of the hostplant, the spores are found in the living leaves and petioles in May and June.

Arum maculatum. J. Stensballegaard Skov!; F. Vejstrup Aaskov (R 79 [21]), Vængemose ([4]/6 63), Tiselholt (June 75 Exs. Thüm. Myc. no 536), Skaarup; Thorseng Horseskov, Bregninge; Langeland; S. Stensby (Thomsen), Stigsnæs (Exc. [23]/6 07), Glænø (P. N.), Ormsø (R 93 e), Vordingborg Kirkeskov (Jeppesen), Oringe (Gad); Falst. Næsgaard Skov (Exc. [25]/6 11).

1318. **Melanotaenium endogenum** (Unger) de By., Syll. VII [492], R 90 e [134] c. icon., Snerrebrand (R 04 a [26]).

The mycelium is perennial in the host-plant, the spores are found in the stems May—July; not uncommon.

Galium mollugo. F. Vormark (Jak. Lge), Hesselager, Skaarup ([17]/5 77); S. Fredriksværk, Villingebæk (Exc. [15]/6 84), Magleby Skov (O. R.), Skelskør (Exc. [22]/6 07); Møen Liselund (Exc. [12]/6 09); B. Rutsker (R 06 dd [372]). *Galium mollugo* × *verum.* J. Haastrup Strand!. *Galium verum.* J. Klitmøller (R 96 m), Fly!; F. Fyens Hoved (Jak. Lge), Nyborg; Ærø Rise Strand (Jak. Lge); S. Helene Kilde, Rørvig (F. K. R.), Kongsøre Strand!, Fredrikssund!, Lystrup Hegn!.

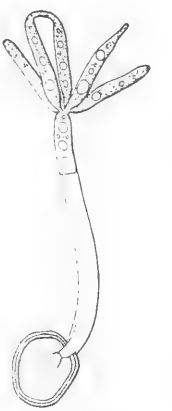


Fig. 22. Melanotaenium endogenum. Germinating resting-spore. $\frac{500}{1}$. From Woronin.

Entorrhiza.

1319. **Entorrhiza Aschersoniana** (Magnus) Lagh., Syll. VII [497], R 90 e [158], Syn: Schinzia Asch. Magnus.

On the roots of *Juncus bufonius.* July—Sept. J. Fredrikshavn!, Sæby, Klitmøller, Ferring Sø (C. H. O.), Randbøldal, Trelde Skov; S. Charlottenlund (July 85); B. Almindingen.

1320. **Entorrhiza scirpicola** (Correns) Sacc., Syll. XIV [425].

Scirpus fluitans. Fanø (Sept. 1911 Raunkiær).

1321. **Entorrhiza cypericola** (Magnus) Weber, Syll. VII [498].

Carex limosa. S. Lyngby Mose (Sept. 93 F. K. R. see R 94 f [36] again [27]/10 95 C. H. O.).

1322. **Entorrhiza vaccinii** Rostrup, deliniated by Rostrup (see Hartz 09 tab. VII fig. 4—6) but not described.

On roots of *Vaccinium uliginosum*. J. Tuesbøl in interglacial deposits (Nic. Hartz).

Tuburcinia.

1323. **Tuburcinia trientalis** Berk., Syll. VII [507], R 90 e [150] c. icon., Skovstjernebrand (R 04 a [30]).

The mycelium penetrates the host-plant and produces the conidial stage, called Ascomyces trientalis Berk., in May—June and the resting-spores in July—August.

Trientalis europaea. J. Knivholt!, Odden Skov (Lind 01), Bruddal!, Rydhave!, Lundgaard Skov!, Hald Bøgeskov (Gad), Silkeborg (F. K. R.), Addit Skov, Kjeldkær near Vejle (Jeppesen); S. Hornbæk (Exc. [15]/6 84), Teglstrup Hegn ([7]/7 73), Fredensborg, St. Hareskov ([21]/7 74 H. M. see de By. 82 [5]).

1324. **Tuburcinia primulicola** (Magnus) Rostrup 90 e [150] c. icon., R 02 a [228], Syn: Urocystis prim. Magnus, Syll. VII [517], Kodriverbrand (R 04 a [30]).

The mycelium is perennial in the host-plant, producing conidiis — called Paipalopsis Irmischiae Kühn, Syll. IV [47], Ldau VIII [89] & IX [728] — in the flowers in May and the resting spores in the capsules June—July (see R 85 f).

Primula officinalis. J. Stensballegaard Skov (Jeppesen June 75), Barritskov (O. R.). *Primula elatior*. J. Staby (Jeppesen); F. Lundegaard (Gad); S. Tryggerød (Raunkiær), Hylleholt (E. W.), Rosenfeld (Jeppesen, Exs. Thüm. Myc. no 2023). *Primula acaulis*. J. Staby (Jeppesen); L. Sundby (O. R.).

Urocystis.

1325. **Urocystis luzulae** (Schroeter) Wt., Syll. VII [516].

In the leaves of *Luzula multiflora*. F. Lykkesholm Skov (! [8]/7 97 see R 99 a [256]).

1326. **Urocystis Fischeri** Kke., R 90 e [153], Syn: Ur. agropyri Schroet. partim., Syll. VII [516].

Carex leporina. J. Trelde Skov (Exc. [24]/7 88).

1327. **Urocystis occulta** (Wallr.) Rabenh., Syll. VII [515], R 90 e [152], 92 e c. icon., 93 c [51], 02 a, 04 a, Syn: Polycystis parallela Berk. & Br. R 69 [27], 71 [19], Rugens Stængelbrand (R 69). Lit: Jensen 88 c [31], F. K. R. 12.

It was, for the first time, recorded from Denmark by Høegh (1797 [118], see also R 02 a [225]); that the germinating plant is infected by its spores, and that the disease must, therefore, be controlled by treating of the grain is mentioned by Jensen (88 c), M. L. M. (May 1911) and several others. In the Isle of Bornholm in 1889 the rye was so severely affected that people fell ill in consequence of thrashing it; they complained of becoming sleepy and dull after thrashing the rye.

In the sheaths of *Secale cereale*, common in all parts of Denmark, June—July.

1328. **Urocystis agropyri** (Preuss) Schroeter, Syll. VII [516], R 90 e [152], Juel 94 [495].

The mycelium is perennial in the host-plant (see Plowr. 89 [60]), the spores are found in the leaves and sheaths in June—September.

Triticum repens. J. Skive!, Gedved (Jeppesen); F. Hunderup (Jak. Lge), Vejstrup ([22]/6 75 Exs. Thüm. Myc. no 419 b), Skaarup; Langeland; S. Taarbæk, Ordrup (O. R.), Vangede, København (F. K. R.), St. Hedinge (K. H.); L. Vesterborg.

1329. **Urocystis colchici** (Schlecht.) Rabenh., Syll. VII [516].

In the leaves of *Tulipa cult.* S. København (1894 F. K. R. & W. Johannsen see R 96 m [129]).

1330. **Urocystis cepulae** Frost., Syll. VII [517], R 88 n, 90 e [153], Løgbrand (R 82 b, 04 a [31]).

Occurs in the leaves, bulbs and roots of Allium; May—October. Cornu (79) believes it to have been imported from America to Europe shortly before 1879; it must, however, be noted that Rostrup had already found it at Skaarup in 1864. The parasite infects the germinating host-plant, and the mycelium is perennial in the bulbs.

Allium cepa. J. Boller (Jak. Lge); S. København (Ottesen); Amager. *Allium porrum.* S. København (Ottesen), Amager. *Allium ascalonicum.* F. Skaarup (Octob. 64); Amager.

1330 a. **Urocystis anemones** (Pers.) Schroeter, Syll. VII [518], R 90 e [153], Syn: Uredo anem. Pers. Syn. [223], Urocystis pompholygodes Rabenh., Polycystis pomph. R 79 [20], Anemonebrand (R 02 a & 04 a [31]).

Trollius Ledebouri. S. Vilvorde (R 96 m [129]). *Pulsatilla pratensis.* J. Uggerby Aa (Lind. 01); S. Bjørnshoved. *Ranunculus bulbosus.* J. Hatting!. *Ranunculus repens* common recorded from J., F., Lang., S. & L. *Ranunculus ficaria.* J. Krabbesholm!, Stensballegaard!; F. Skaarup; S. Ermelunden etc. *Anemone nemorosa* common. *Hepatica triloba.* J. Buderupholm; S. Tudsenæs, Boserup, Køge Aas; B. Dynddalen (Neger 06). *Hepatica triloba nobilis.* S. Landbohøjskolens Have (see R 95 a [204]).

1330 b. **Urocystis sorosporioides** Kke., Syll. VII [519].

Thalictrum minus. S. Nykøbing Lyng ([2]/7 1890 S. Rützau see R 92 g [66]).

1330 c. **Urocystis coralloides** Rostrup 81 c [126], 84 & 90 e [154] c. icon. Syll. VII [521]. See tab. V, figg. 68 & 69.

A very rare species, only found once on this host-plant and once on the roots of Matthiola sinuata near Monpellier (Lagerheim 99 a).

Turritis glabra. Vejstrup Aaskov ([5]/6 1880).

1330 d. **Urocystis violae** (Sow.) F. de Waldh., Syll. VII [519], R 90 e [154] & 02 a [227] Syn: Sorosporium vesicarium (Kaulf.) Rostrup in Thüm. Mycot. no 1513, Violbrand (R 04 a [31] c. icon.).

Viola silvatica. F. Broholm, Vejstrupgaard, Skaarup ($^{30}/_{7}$ 76); S. Rungstedhegn (Rützou). *Viola odorata culta*. J. Boller (Jak. Lge); F. Odense (Jak. Lge); S. Gjorslev (Valentiner).

1330 e. **Urocystis filipendulae** (Tul.) Fuckel, Syll. VII [520], R 90 e [155], Mjødurtbrand (R 04 a [31]).

Common in the leaves of *Filipendula hexapetala*, June—July. Recorded from J. Feggeklit (Exc. $^{25}/_{7}$ 10), Vosnæs ($^{24}/_{7}$ 74); S. Fredrikssund (R 95 l); B. Jons Kapel and many other places.

Doassansia.

1331. **Doassansia alismatis** (Nees) Cornu, Syll. VII [503], R 90 e [127] c. icon., Syn: Sclerotium alis. Nees, Fries S. M. II [257], Phyllosticta Curreyi Sacc., Syll. III [60], Skebladbrand (R 04 a [26]).

On the leaves of *Alisma plantago*. J. Thorum!, Marselisborg, Ø. Nykirke (Thaning); Fænø; F. Skaarup (March 63); S. Hvalsølille Sø, Tystofte (Lind 07 b); L. Stensgaard, Pederstrup.

1332. **Doassansia intermedia** Marat, Syll. XIV [427].

Echinodorus ranunculoides. L. Maribo Sø ($^{20}/_{7}$ 05).

1333. **Doassansia sagittariae** (Fuckel) Fischer, Syll. VII [503], R 90 e [128], Pilbladbrand (R 04 a [26]).

Sagittaria sagittifolia. S. Nivaa Mølledam (R. Fejlberg), Strandmøllen (O. R.), Botanisk Have!, Landbohøjskolens Have ($^{25}/_{8}$ 89).

1334. **Doassansia Martianoffiana** (Thüm.) Schroeter, Syll. VII [504], R 90 e [128], Vandaksbrand (R 04 a [26]).

Potamogeton natans & *gramineus*. S. Hvalsølille Sø. *Potamogeton polygonifolius*. J. Sparkær!, Non Mølle (E. R. & Gad), Avnsbjerg Skov!, Fussing Vasehus (C. H. O. see Lind 04); F. Skaarup ($^{17}/_{9}$ 62).

1335. **Doassansia limosellae** (Kze.) Schroeter, Syll. VII [507], R 90 e [129], Dyndurtbrand (R 04 a [26]).

In the leaves of *Limosella aquatica*. L. Bregninge ($^{30}/_{7}$ 75).

1336. **Doassansia hottoniae** (Rostrup) de Toni, Syll. VII [506], R 90 e [129], Syn: Entyloma hot. R in Thüm. Myc. 1884, Hottoniabrand (R 04 a [26]). See tab. IV figg. 55 & 56.

Soris minutis, rufis, hemisphaericis, gregariis, 80—200 μ diam., raro oblongis; sporis rotundato-polygonis, episporio tenui, levi, dilute fuscis, 10—14 μ diam., tegumento communi arcte adnato, bene distincto, brunneo.

A very rare species, only found once out of Denmark (Sweden Exs. Sydow fasc. VI).

In the leaves of *Hottonia palustris*. F. Skaarup & Klingstrup (July 1883 E. R. and Johanson. Exs. Thüm. Myc. no 2222 and Roum. no 4727).

Tracya.

1337. **Tracya lemnae** (Setchel) Sydow, Syll. XVI [378], Syn: Cornuella lem. Setch., Syll. XI [236].

Spirodela polyrrhiza. S. Utterslev Mose ([26]/10 05 O. R.).

Supplement of the Hemibasidii.

Graphiola.

It is possible that this genus does not belong to the Hemibasidii but, as a rule, it is placed there as no better place for it has been found as yet. Höhnel, however, considers it the conidial stage of a species of Ustilagineae.

1338. **Graphiola phoenicis** (Moug.) Poit., Syll. VII [522], R 99 a [257], 00 e, 02 a [228], 03 i.

The mycelium penetrates the host, and the fungus causes some damage to Phoenix in the nurseries; it was first found in Denmark in 1898 and may now occur in most nurseries. Concerning its place in the system see Fischer 83, Juel 97, Höhnel 09 [816].

Phoenix dactylifera very common. *Phoenix canariensis*. B. Rønne (Chr. Johansen).

Sorosphaera.

Sorosphaera was formerly reckoned among the Ustilagineae but is now considered a Myxomycet (see Maire 09). Still I think it fitting to mention it here as Raunkiær has not mentioned it among the Danish Myxomycetes.

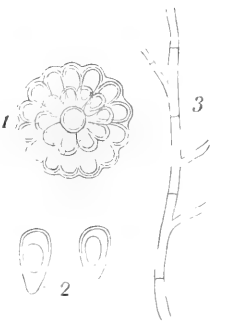


Fig. 23.
Sorosphaera veronicae.
1. Conglomerat of spores.
2. single spores. 3. Mycelium. $\frac{500}{1}$. From R 95 a.

1339. **Sorosphaera veronicae** Schroeter, Syll. VII [466].

On the stems and petioles of *Veronica hederifolia*. S. Fortunen (R 97 m), Ermelunden ([17]/5 93 see R 95 a [201] c. icon.).

Protobasidiomycetes.

Uredinales.

Hitherto we have been in want of a complete account of all the species of this most important group of fungi which are to be found

in Denmark; but during late years good works on the Uredinales of some of our neighbouring countries have been published, and these have been a great help to me in the preparation of the following account; especially are to be pointed out: J. I. Liro: "Finlands Rostsvampar" and F. Bubak: "Böhmens Rostpilze", both published in 1908, containing many independent descriptions of the species and giving splendid contributions to their biology; E. Fischer's work on the Uredineae of Switzerland and Klebahn's work on the heteroecious Uredineae are also of great value as also Sydow: "Monographia Uredinearum" which I quote as far as concerns all species of Puccinia and Uromyces, those being the only genera up to date described in this standard work; Saccardo's Sylloge, and Winter I are quite out of date.

For a comparison I shall state that up to this day 261 species of Uredinales have been found in Denmark while in Finland 246 species have been found, in Bavaria 312, in Tyrol 310 (Magnus 05 a), in Switzerland 375 (Fischer 04); it must be noted that Switzerland has 2400 vascular plant-species against the 1400 species of Denmark. Of the Uredinales occuring in the neighbouring countries and which we must suppose will, on closer investigation, also be found in this country may be mentioned:

Uredinopsis filicina (Aspidium phegopteris), Melampsorella Feurichii (Asplenium septentrionale), Uromyces salicorniae (Salicornia herbacea), Uromyces scrophulariae (S. nodosa), Urom. thapsi (Verbasc. thapsus), Urom. minor (Trifolium montanum), Puccinia galanthi, Pucc. actaeae-agropyri, Pucc. astrantiae, Pucc. vulpinae (Tanacetum & Carex vulpina) etc.

The numerous splendid contributions which Danish mycologists have made to our present knowledge of the biology of these fungi are now only of historical interest, so I will here only give a brief recapitulation of the most important of the discoveries particularly concerning the heteroecious Uredineae for which we have to thank Danish mycologists and among these especially A. S. Ørsted, C. Gad, E. Rostrup and P. Nielsen.

A. S. Ørsted.

In 1865 Ørsted infected Pirus communis with teleutospores of Gymnosporangium sabinae.

- 1866 — — Sorbus aucupariae with teleutospores of Gymnosporangium juniperinum.

- 1867 — — Crataegus oxyacantha with teleutospores of Gymnosporangium clavariiforme.

E. Rostrup.

The first cultivating experiment made by Rostrup was made in the forest "Vejstrup Aaskov"; the result which Rostrup thought he had obtained (the relation of Aecidium orchidearum to Puccinia moliniae) must be considered as very dubious and has not been confirmed later on (see Klebahn 94 [138], 96 [268], 98 [21], 99 [155], Vgr. 03 [90], R 74 b, Juel 94). Rostrup also occasionally mentions (82 b [7], 84 a, 88 n [40]) that he has infected Rheum with teleutospores of Pucc. Magnusiana; strange to say the same mistake is also found with Schroeter (see Klebahn 04 [283]) and P. Nielsen (in herbario); it must, no doubt, be owing to a wrong determination of the Puccinia.

In 1883 Rostrup made successful cultivating experiments by which he proved the correspondence between Caeoma pinitorqua and Melampsora pinitorquum (R 83 d & 84 a).

In 1898 Rostrup stated the relation between Aecidium thalictri minus and Puccinia elymi Westd. (R 98 b [271]). Rostrup also often found the right correlation by observations from nature, on several occasions in company with C. J. Johanson; all these observations have later on been confirmed by cultivating experiments made by others for instance:

Puccinia dioecae Magnus see R 84 a [16].
Puccinia paludosa Plowr. see R 89 b [246].
Puccinia eriophori Thüm. see R 84 a [17].
Puccinia littoralis Rostrup.
Melampsora abietis-caprearum.
Coleosporium euphrasiae (Schum.) Wt. see R 94 f [38].
Coleosporium campanulae (Pers.) Lév. see R 94 f [39].

C. Gad.

1885 C. Gad infected the leaves of Populus tremula with caeomaspores from Mercurialis (Melampsora Rostrupii).
— — infected Crataegus nigra and Crataegus monogyna rubriflora with teleutospores of Gymnosporangium clavariiforme.
1886 — infected Pirus malus silvestris with teleutospores of Gymnosporangium tremelloides. The same experiment was repeated by Rostrup the following year in Copenhagen on Pirus malus hortensis (see R 88 c & 90 a [176]).

P. Nielsen.

During the years 1870—1883 P. Nielsen, then schoolmaster and sexton at Ørsløv in Seeland, made a great many excellent cultivating

experiments with Uredinales; experiments which would have roused the greatest sensation if they had then been published, but which have now been repeated later on by others. The reason for which they were not published then, must be ascribed to the fact that P. Nielsen had to interrupt these experiments to deal with other things which completely filled his time. I have made great efforts to find some diary or account of these experiments, but in vain, so most of this information is owing to the notes in P. Nielsen's herbarium. It is quite sure that Nielsen must have made a much greater number of experiments than those stated below, he must especially have made many experiments in vain, as, by that time, only a few of the relations, now familiar, were known. He himself has described his proceeding (77 b [5]), it is quite like that of the uredinologists of the present time. P. Nielsen himself has only given very scanty information of his cultivating experiments (77 a & b), and Rostrup also gives very scattered and brief accounts of them (R 82 b, 83 d [205], 84 a, 89 b).

Coleosporium.

P. Nielsen's herbarium contains Coleosporium sp. on Campanula trachelium & rapunculoides, Senecio vulgaris, Sonchus arvensis & asper, Alectorolophus and Tussilago all produced by sowing of spores of Peridermium pini acicola in 1879—80—81; further informations is wanting.

Klebahn later on repeated a number of these experiments in 1892 in ignorance of the results of P. Nielsen.

Melampsora.

1879 P. Nielsen infected Populus alba & tremula with caeomaspores from Mercurialis perennis and vice versa, repeated 1880 and 1881, confirmed by Rostrup's experiment (see R 82 b [10], 83 d [206] & 84 a [14]).

1879 infected Ribes with hibernated teleutospores from Salix undulata & molissima and the following year vice versa (see R 83 d [205], 84 a, 89 b [249]).

1880 infected Salix cinerea with caeomaspores of Melampsora evonymi-caprearum Klebahn (see R 84 d).

1880 infected Populus tremula with caeomaspores from Corydallis cava and vice versa 1883 (17 years before Bubak).

Uromyces.

1874 infected Poa trivialis with aecidiospores from Ranunculus ficaria & repens, and again 1877—78 (see P. N. 77 a [33]).

1879 produced $^{26}/_{5}$ clustercups of Uromyces betae by infection $^{23}/_{4}$ with teleutospores.

1880 produced Uromyces pisi by infection with aecidiospores on Euphorbia cyparissias, sent by Prof. P. Magnus from Berlin.

1880 produced $^{14}/_{5}$ clustercups on Trifolium repens by sowing ($^{18}/_{4}$) wintered teleutospores of Uromyces trifolii.

1880 infected Glaux maritima with teleutospores from Scirpus maritimus (10 years before Plowright).

Puccinia.

1871 P. Nielsen produced clustercups on the leaves of Lampsana by sowing teleutospores from wintered leaves of the same host.

1874 in July he produced uredo on Lolium perenne by sowing aecidiospores from Rhamnus catharticus, and the same uredospores, sown on leaves of Avena sativa produced again uredo (see P. N. 75 b [550] & 77 a [39], E. & H. 96 [252]).

1874—75 infected Poa annua, trivialis, nemoralis, palustris & pratensis with aecidiospores from Tussilago and vice versa (see P. N. 77 a).

1876 made some experiments with "Aecidium albescens Grev" (see P. N. 77 a [41]).

1877 infected Rumex acetosa in April with teleutospores of Puccinia Trailii Plowr., and vice versa in July (see R 84 a [10], Klebahn 04 [284]).

1878—80 he produced clustercups on Rhamnus cathartica by sowing teleutospores from Avena sativa, Holcus lanatus and Lolium perenne. "Puccinia lolii Nielsen".

1877—79 infected Calamagrostis lanceolata with aecidiospores from Frangula alnus and vice versa, the same aecidiospores sown on many other gramineae gave no result. "Puccinia calamagrostidis Nielsen" in herbario = Puccinia coronata f. spec. calamagrostidis Er.

1879 he produced Puccinia sonchi st. II on leaves of Sonchus arvensis & asper by sowing wintered teleutospores from the same hosts.

1880 in the same manner uredo of Puccinia absinthii on Artemisia vulgaris and uredo of Puccinia chaerophylli on Anthriscus and uredo of Puccinia bardanae on Lappa tomentosa.

1880 he produced teleutosori on the leaves of Cirsium heterophyllum by sowing teleutospores of Puccinia cnici oleracei and in the same manner produced Puccinia arenariae on Stellaria holostea and Puccinia circaeae on Circaea lutetiana.

1879 infected Baldingera arundinacea & var. picta with aecidiospores from Convallaria majalis (12 years before Magnus and Klebahn).

1879—80 infected Majanthemum, Paris, Convallaria & Polygonatum with teleutospores from Baldingera arundinacea.

1879—80 infected Berberis vulgaris with teleutospores from Triticum repens & spelta.

1880 infected Urtica dioeca with teleutospores from Carex hirta, riparia & pallescens (hosp. nov.).

1879—81 infected Rumex crispus & obtusifolius and Rheum cult. with teleutospores of Puccinia phragmitis and produced uredo on Arundo phragmites by sowing aecidiospores from Rumex obtusifolius.

1883 infected Baldingera arundinacea with aecidiospores from Orchis latifolia and vice versa (16 years before Klebahn).

Endophyllaceae.

Endophyllum.

1340. **Endophyllum sempervivi** (A. – S.) de Bary, Lit: Hoffmann 11.

Sempervivum jubatum. S. Roskilde ($^{6}/_{6}$ 1888 F. Wendt see R 89 i [229] & 02 a [322]), most likely imported with the host plant.

Melampsoraceae.

Lit: Magnus 09.

Chrysomyxa.

1341. **Chrysomyxa abietis** (Wallr.) Unger, Granrust (R 02 a [316] c. icon. & 04 a [56]), Lit: R 89 a [13] c. icon., Schøyen 10.

Leptochrysomyxa whose spores germinate in spring (March), infect the young leaves; it has often been noticed that a single tree is severely affected from top to root while the neighbouring trees are almost sound. It is sure to be found in all spruce forests, as examples may be stated:

Picea excelsa. J. Vendsyssel (Lovendal 1871 see Ørsted 72), Dronninglund Storskov (H. Schested), Aarhus!, Palsgaard (Fabricius), Gjoddinggaard; F. Wedellsborg (Schrøder), Skaarup; S. Geelskov (1872 Wegge see Ørsted 72 [10]), Ledreborg (Thomsen), Liliedal Skov (C. L. Thomsen); Møen Klinteskov (E. W.); B. Almindingen. *Picea Engelmannii* & *pungens*. S. Charlottenlund Forsthave (N. Esbjerg), Soro!.

1342. **Chrysomyxa empetri** (Pers.) Schroeter.

Is almost exclusively found in st. II; Rostrup has found st. III and

classified it under Chrysomyxa (88 b [536]) the year after Schroeter and independently of him.

Empetrum nigrum. J. Viborg, Ved Sø, Nonbo Mose (Gad), Feldborg, Holstebro (Jeppesen), Trudsholm (July 1869), Addit, Himmelbjærget, Silkeborg, Herning, Borris Hede (F. & W. 08), Bordrup; F. Hals by Hofmansgave; S. Rørvig, Hornbæk Plantage, Lyngby Mose!; B. Hammeren (Neger 06).

1343. **Chrysomyxa cassandrae** (Peck & Cooke) Tranz., Syll. XVII [397], Syn: Uredo cassandrae P. & C. in 30 Rep. St. Mus. 1878 p. 54, Syll. VII [844], Caeoma cassandrae Gobi 1886, Caeoma cassandrae Rostrup 88 c, Lit: R 02 a [318], Liro 08 [465].

Is, like the preceding one, found almost exclusively in st. II; Liro supposes it to be a heteroecious species of rust having its st. I on Picea.

The infected plant had been introduced into the Botanical Garden in 1886 from Finland where this fungus is very common.

Cassandra calyculata. S. Botanisk Have (June 87 E. W.).

1344. **Chrysomyxa pirolae** (de C.) Rostrup.

Rostrup has been the first to find its st. III on hibernating leaves (May 1880) thus being able to classify it under its proper genus (Thüm. Myc. no 1827). On basis of observations from nature Rostrup has considered (81 c [126]) its st. I to be Aecidium conorum Reess, which is somewhat probable, but not yet proved (R 02 a [318], Liro 08 [458]). Is most frequently found in April and May; its mycelium is perennial in the subterranean parts of the plant, and the uredo will appear regularly on the under-side of all the leaves. P. Nielsen tried to plant infected plants in his garden, and they continued to reproduce uredo every year (see also Liro 08 [32]).

Pirola minor. J. Sødal near Viborg!, Rindsholm (Gad), Sneptrup (D. B.), Snaptun!; F. Brændeskov (Thüm. Myc. no 1827), Sortebjærg Vænge, Klingstrup ($^{7}/_{5}$ 68); S. Slagslunde (Feddersen), Ravnholt (Raunkiær), Hareskoven (A. Bruun), B. Sandflugtskoven! (Exc. $^{17}/_{5}$ 11). *Pirola media.* B. Almindingen (R 06 dd [374]). *Pirola rotundifolia.* S. Ørslev (P. N.).

1345. **Chrysomyxa ramischiae** Lagerheim 09 [26].

Pirola secunda. S. Tisvilde Hegn (July 1895 Vald. Christensen).

Cronartium.

1346. **Cronartium ribicola** Dietrich, Syn: Cron. ribis Ørsted (67 c), Cron. ribicola Rostrup (in Catalogue des plantes, que la Soc. bot. de Copenhague peut offrir 1871 see Magnus 74 [21]), Cron. ribesii Woronin 1870, Peridermium strobi Kleb., Aecidium strobi Kleb., Aecidium strobi Kleb. (R 1906 dd [378]), Peridermium Klebahni Rostrup (90 a [188]

c. icon.), non Fischer, Filtrust & Blærerust (R 02 [308] c. icon., Lind & Ravn 10 [46]), Lit: R 90 a & 06 r.

Heter-eu-cronartium, st. I is perennial in the bark of Pinus, st. II & III on the under side of the leaves of numerous species of Ribes. Klebahn has proved the right correspondence of the two forms (Kleb. 88, recorded by Rostrup 90 a [186]). Rostrup has confirmed the observations (R 95 a [205]); he sowed peridermium spores May 9. 1893 and got st. II on Ribes gracile, multiflorum and divaricatum May 23.

The strange fact that the two host-plants on which it is generally found in Europe, Pinus strobus and Ribes aureum, have been imported from America without the fungus having been known there until in 1906 (F. K. R. 11) it was brought over from Europe, has induced many mycologists to occupy themselves with the peregrinations of this fungus. (A copious list of literature concerning this subject has been collected by Stewart (06), see also Dietel (04)).

Thus it has been proved that the fungus has emigrated from Siberia where it is found on Pinus cembra without doing considerable injury. It was found by Dietrich in the Russo-Baltic Provinces in 1856 & by Körnicke in the East of Prussia 1865 (Ecke 77 [24]), but was unknown in the rest of Germany till Magnus & others found it in Stralsund & Kiel in 1872 (Magnus 74). Already on the 20. of May 1861 it was found on Pinus strobus near Helsingfors (Liro 08 [448]) & near Fagervik in Finland in 1870. In Denmark Cronartium on currant leaves was first noticed about 1865 (R 02 a [309]) & 1872 (Ørsted 67 c [132]); Peridermium strobi was first collected in a nursery at Hørsholm in 1877 (P. E. Müller), but according to trustworthy reports it was seen both in Jutland & in Seeland even before the year 1870. Rostrup was mistaken at first in considering it to belong to Coleosporium senecionis (R 83 d [207], 89 a tab. IV); since 1870 it has spread very widely and is doing great injury both to Pinus and Ribes; the cultivation of Pinus strobus has in several places been quite abandoned on account of the attacks of this fungus (R 89 a & 93 a [107]). It is so common that it would take too much time to state all its localities; in the forests of North Seeland, at Tølløse and in the forest of Dronninglund Rostrup has noticed hundreds of trees killed by this fungus (90 a [181]).

The big sori of Peridermium strobi are often attacked by Tuberculina maxima (R 02 a [330]) and are generally devoured by Arvicola glareola (see Boas 96 [40]).

St. II & III seem to be able to attack all species of Ribes, although to a very different extent; Ribes nigrum and aureum are most exposed to its attack; on Ribes grossularia it is seldom found; but chiefly on the high-stemmed species, grafted in Ribes aureum (Kleb. 92 [17]); both Rostrup and I have, however, also found it on red gooseberries.

Pinus strobus common. *Pinus excelsa* (hosp. nov.). L. Fuglsang Have (R 02 a [312]). *Ribes aureum*. J. Fredrikshavn (V. S.); F. Skaarup; S. Holte (R 06 m), Lyngby (K. H.), Slagelse; Møen Stengaard. *Ribes Biebersteinii*. S. Forsthaven ved Charlottenlund. *Ribes divaricatum*. S. Landbohøjskolens Have. *Ribes gracile* (R 95 a [205]). *Ribes grossularia* (R 06 r). S. Vinderød Skov, Forsthaven etc. *Ribes multiflorum* (R 95 a [205]). *Ribes nigrum* common (specimens from F. Holmdrup 1874 in Thüm. Myc. no 146). *Ribes nigrum variegatum*. S. Landbohøjskolens Have. *Ribes nigrum laciniatum*. S. Forsthaven. *Ribes petraeum*. S. Forsthaven. *Ribes rubrum*. J. Mariager, Langaa!, Linaa Vesterskov; F. Brændeskov, Raagebjærg, Klingstrup, Trolleborg (Joh. Lge); S. Landbohøjskolens Have, Hyldeholt; L. Stensgaard; Møen Hunesø; B. Rømersdal (Neger 06). *Ribes sanguineum*. J. Viborg!; Falst. Stubbekøbing (R 05 b [308]).

Coleosporium.

Coleosporium forms a most homogeneous genus; st. I is always a Peridermium on the leaves of Pinus "Peridermium acicola" = Aecidium pini Pers. Syn. [213]; st. II & III are both microscopically and macroscopically very homogeneous as to all species; accordingly the limitation of the separate species is rather a matter of judgment. Fries (S. V. [512]) classified the species according to the different families of phanerogams housing teleutospores (Coleosp. synantherarum, campanulacearum etc.); modern authors classify them according to biological circumstances; but they are not always quite constant.

In May 1889 Rostrup noticed near Arresødal a severe attack of Peridermium acicola on Pinus montana and silvestris, evidently originating from st. III on wintered leaves of Campanula rapunculoides.

Also from other sides it has been confirmed later on that the teleutospores germinate directly after the finishing of their formation, and the sporidii infect the young leaves; the mycelium winters in these and develops st. I in spring.

Several of the species — probably all of them — may, however, propagate only by uredo spores all the year round (R 84 a [6]). Rostrup 84 a [18] & 96 o [129]) once observed a curious mutation of a Coleosporium, finding that a Crepis tectorum which was surrounded by Senecio vulgaris, highly infected by Coleosporium senecionis, had a few sori of Coleosporium on its leaves.

Both Rostrup and P. Nielsen have made several infection experiments with Peridermium acicola and Coleosporium, but they have not published much about them (R 77 b [159], 89 a, 94 f). After Wolff's statement in 1872 of the relation between Peridermium acicola and Coleosporium senecionis, many mycologists — and among those also Rostrup — considered it a fact that all forms of Peridermium — both "acicola" & "corticicola" — belonged to Coleosporium senecionis, which Rostrup expressed in several places in his publications during

the following years f. inst. R 89 a. Rostrup's "Peridermium Wolffii" indicates both forms of Peridermium, and is used by him from 1874 till about 1894 (R 90 a [188] c. icon. & in the herbarium).

Is is necessary to put down the forms of Peridermium and of st. II & III separately, as no means are found to determine to which species of Coleosporium a specimen of Peridermium acicola in the herbarium belongs, st. II & III are most frequently found during the period July—October; on Senecio vulgaris and others, vegetating the whole winter, new groups of st. II are to be found all the year round.

Peridermium pini Willd., forma acicola, Syn: Aecidium pini Willd., Schum. no 1529, Granens Støvskaal (H. 37 [906]), Lit: R 92 k.

Is to be found from April to July on the leaves of Pinus.

Pinus austriaca. F. Lundeborg, Brændeskov, Glorup, Vejstrupgaard; S. Glænø (P. N.). *Pinus rigida.* F. Brændeskov. *Pinus echinata.* S. Søholm Have. *Pinus laricio.* F. Glorup ([30]/5 74), Vejstrup Aaskov. *Pinus maritima.* J. St. Boust (Colding). *Pinus silvestris.* F. Kværndrup, Broholm, Brændeskov, Vejstrupgaard; Thorseng Bregninge; S. Sonnerup, Rønnebæk (O. R.), Asserbo Overdrev (May 89 and again June 96 Magius), Hellebæk (Børgesen), Brede, Kaningaarden, Bromme Plantage; L. Sæbyholm. *Pinus montana.* J. Tvorup (J. Christensen); S. Gammelmose!. *Pinus montana* var *pyrenaica.* J. Rødding-lund Plantage (C. Dalgas).

1347. **Coleosporium pulsatillae** (Strauss) Lév., Peridermium Jaapii Kleb., Lit: R 02 a [322], Kleb. 05 [372].

Pulsatilla pratensis. F. Balslev; S. Rørvig, Asserbo Overdrev ([25]/10 78 and again [23]/7 90, R 92 g [68]), Arresødal, Billesborg Skov.

1348. **Coleosporium euphrasiae** (Schum.) Wt., Syn: Uredo euphrasiae Schum. no 1551, Peridermium Stahlii Kleb. (05 [369]), Øjentrøst-Brandstøv (H. 37 [909]).

Quite common on *Euphrasia officinalis, parviflora, gracilis, Odontites rubra, pallida, littoralis, Alectorolophus major, minor, apterus.*

1349. **Coleosporium melampyri** (Reb.) Karsten, Peridermium Soraueri Kleb. (05 [370]).

In May 1892 Rostrup noticed (94 f [38]) that Pinus silvestris at "Brede Bakke" was particularly infected by Peridermium acicola, he therefore examined the same locality in August and found all plants of Melampyrum nemorosum to be quite red with Coleosporium. In the same year Klebahn proved the relation of those two forms by culture experiments.

Common on *Melampyrum cristatum, arvense, nemorosum, pratense & silvaticum.*

1350. **Coleosporium campanulae** (Pers.) Lév., Syn: Uredo campanulae Pers., Syn. [217], Peridermium Rostrupii Fischer, Periderm.

oblongisporium Fuck. censu Rostrup (94 f [41]) non Klebahn (05 [365]). Klokkerust (R 88 n [40]).

On the 29. May 1889 Rostrup found the young plants of Pinus montana & silvestris in the Arresødal nursery to be severely attacked by Peridermium acicola, and the severity of the attack was proportional to the distance of the plants from a group of Campanula rapunculoides infected by Coleosporium (R 94 f [39]).

Klebahn classifies the species into several special forms which are, however, not definitely separated from each others. It is seldom sought in vain on the more common species of Campanula.

Campanula rapunculoides. Common. *Campanula trachelium*. F. Glue Mose!; S. Lyngby (F. K. R.), Boserup (Thomsen), Skelskør!; L. Stensgaard (Aug. 62); Falst. Stubbekøbing. *Campanula latifolia*. J. Dvergetved (V. S.), Nørlunde (Jeppesen); F. Tiselholt; L. Stensgaard, Søllested; Falst. Sortsø. *Campanula rotundifolia* common. *Campanula rapunculus*. L. Sæbyholm. *Campanula lychnitis*. S. Landbohøjskolens Have. *Campanula persicifolia*. S. Rørvig; Møens Klint!. *Phyteuma spicatum*. J. Sødal by Viborg!; F. Klingstrup. *Lobelia cardinalis* (hosp. nov.). S. Ordrup ([19]/9 1910 G. N. Brandt).

Vestergren has found Coleosporium on the neighbouring Lobelia fulgens atropurpurea near Upsala, and proposed the name of Coleosporium camp. f. lobeliae (Vgr. 99 [155]).

1351. **Coleosporium petasitis** (de C.) Lév., Peridermium Boudieri Fischer.

Petasites officinalis noticed from J. Viborg Sø ([8]/8 74 and again [2]/9 08!); F. Glorup; S. Taarbæk (A. B. [28]/9 1870); Falst. Stubbekøbing. *Petasites spurius*. Falst. Tromnæs by Bøtø Nor (R 99 a [260] & 99 b).

1352. **Coleosporium tussilaginis** (Pers.) Lév., Syn: Uredo tussilaginis Pers. Syn. [218], Schum. no 1547, Peridermium Plowrightii Kleb., Hestehovens Brandstøv (H. 37 [909]).

Tussilago farfarus very common.

1353. **Coleosporium senecionis** (Pers.) Lév., Syn: Uredo senecionis Pers., Syn. [218], Schum. no 1545, Caeoma cinerariae Rostrup (97 m [41]), Peridermium oblongisporium Fuck. censu Klebahn 05 [358], Perid. Wolffii Rostrup partim (89 b [250]), Stolt Henriks Brandstøv (H. 37 [909]), Lit: R 94 f [41] & 02 a [321].

Rostrup himself says (97 m [41]) that he doubts whether the small groups of spores of Caeoma cinerariae are really caeoma or uredo, so I felt (Lind 07 b) obliged to use this name as a synonym under this species.

According to the investigations of Klebahn st. I is found on Pinus austriaca, montana & silvestris; st. II & III are often found in abundance on leaves and stalks of the common species of Senecio when

these are growing near pine-woods; on Senecio (Cineraria) palustris are always found only very few and small sori.

Senecio vulgaris, silvaticus, viscosus common. *Senecio vernalis.* J. Vroue!; Falst. Bøtø (R 99 a [260]). *Senecio pulcher.* S. Botanisk Have (A. Lge). *Senecio doria.* S. Landbohøjskolens Have (R 92 g [72]). *Cineraria palustris.* J. Gaardbogaard (F. K. R. Exc. [19]/7 96), Mariager!; S. Rungsted!, Skelskør (Exc. [21]/6 07). *Cineraria hybrida.* L. Hardenberg (J. Jørgensen). *Crepis tectorum.* F. Skaarup ([1]/9 78 R 96 o [130]).

1354. **Coleosporium inulae** (Kze.) Fuckel, Kleb. 05 [362], Peridermium Klebahni Fischer non Rostrup (94 f [41]), Lit: R 02 a [321].

Inula salicina. L. Hestø i Maribo Sø ([16]/7 99 E. W. see R 05 b [308]).

1355. **Coleosporium sonchi** (Pers.) Lév., Syn: Uredo sonchi arvensis Pers., Syn. [217], Uredo tuberculosa Schum. no 1542, Fl. D. tab. 1318 fig. 1, Uredo sonchi Schum. no 1543, Uredo fulva Schum. no 1544; Peridermium Fischeri Kleb. 05 [361], Lit: R 02 a [321].

Quite common on leaves and stems of *Sonchus oleraceus, asper, arvensis, paluster.*

1356. **Coleosporium cacaliae** (de C.) Wagner, Peridermium Magnusianum Fisch., Coleosp. ligulariae Thüm., Lit: Kleb. 05 [364], R 02 a [321].

Cacalia sp. S. Forstbotanisk Have ([4]/10 91 R 92 g [72]). *Ligularia macrophylla.* S. Botanisk Have, Landbohøjskolens Have (R 92 g [72]), Søholm near Stevns ([4]/8 87 R 88 c). *Ligularia gigantea.* Falst. Stubbekøbing.

Ochropsora.

1357. **Ochropsora pallida** (Rostrup)!, Syn: Melampsora pallida Rostrup 77 b [153], Melampsoridium pal. R 02 a [301] c. icon. & R 04 a [53], Ochropsora sorbi (Ouds.) Diet., Caeoma sorbi Ouds 1874. Aecidium anemones Pers. Syn. [212], Schum. no 1526, Fl. D. tab. 2217 fig. 1, Aecidium leucospermum de C., Rønnerust (R 04 a [53]), Anemonens Støvskaal (H. 37 [905]). Lit: R 84 k.

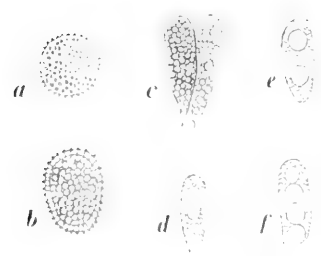


Fig. 24. Ochropsora pallida.

a & b Uredospores. c young. d, e, f older Teleutospores. Enlarged. From R 02 a.

Fungus teleutosporiferus: acervulis hypophyllis, aggregatis, confluentibusque, pallidis; sporis clavatis v. oblongatis, pallidis, 26—32 μ long, 10—16 μ crass., vix cohaerentibus. September 1876 (R in Thüm. Myc. no 1050).

It cannot be disputed that Rostrup is right in maintaining that his name for the teleutospores of 1877, should be preferred to the name given to it by Oudemans which is three years older, but only given to the uredo (see also Thümen & Voss 1878 [612]).

St. I which according to the international rules for nomenclature (Brussels 1910) is now to be called Aecidium anemones Pers. has its perennial mycelium in Anem. nemorosa (Liro 08 [32]); the infected leaves come out in the spring on a longer stalk and with a smaller leaf than the sound ones.

Anemone nemorosa. Common in the forrests. April—May. *Sorbus aucuparia.* J. Lundgaard near Løgstør!, Harrestrup (R & Gad), Rindsholm (Gad), Gjesten Skov; Fænø; F. Brændeskov, Klingstrup, Holmdrup, Skaarup (Sept. 76 Exs. Thüm. Myc. no 1050); S. Arresø, Skelskør (P. N.); L. Søllested; Falst. Nykøbing, Østerskov; Møen Liselund; B. Helligdommen (Neger 06 [366]). *Pirus malus silvestris.* J. Krabbesholm Skov!, Greisdalen; F. Skaarup ([3]/9 79); S. Boserup Skov (O. R.), Billesborg Skov (R 95 k); L. Heiringe.

Melampsora.

1358. **Melampsora amygdalinae** Klebahn, R 02 a [293].

The only known Melampsora developing all three stadies on Salix; caeoma forms large, oblong spots on the young branches especially of the cultivated Salix amygdalina, and causes great damage by tearing open the bark right down to the base of the branch.

Salix amygdalina. Lang. Lohals (Holt); L. Søllestedgaard.

1359. **Melampsora abietis-caprearum** Tubeuf, Caeoma abietis pectinatae Reess, Caeoma abietis Reess (R 90 a [193] & 02 a [327]).

In 1886 Rostrup found in Stenderup Nørreskov close to Kolding Fjord the same Caeoma on the leaves of ten-years-old Abies alba Miller, and close by was Salix caprea very much affected by uredo on the back of the leaves. Rostrup writes in his diary that he believes those two to be related, and later on (1902) Tubeuf proved the same by cultivating experiments.

Abies alba. J. Volstrup!, Stenderup Nørreskov ([10]/7 86); F. Langesø ([13]/7 86). *Salix caprea.* J. Volstrup!, Stenderup Nørreskov ([10]/7 86).

1360. **Melampsora allii-fragilis** Klebahn, Syn: Caeoma alliorum Link, Caeoma allii ursini Wt.

At the Bobbeaa was found (Eks. [15]/5 1911) a very extensive stock of Allium ursinum, but it was only the specimens, growing under some old Salix fragilis, which were infected with caeoma on their leaves, all others were quite free from caeoma. Later on (Aug. 22.) when I visited the same place I found st. II on the leaves of Salix fragilis.

Allium ursinum. J. Tolstrup Aa (Jeppesen); F. Christiansminde ([20]/5 75); Thorseng Nørreskov ([19]/5 82. Exs. Thümen Myc. no 2237); L. Stensgaard; B. Bobbeaa (! Exc. [15]/5 11. Exs. Vgr.). *Allium scorodoprasum.* F. Rugebjærg. *Salix fragilis.* B. Bobbeaa! (Exs. Vgr.).

1361. **Melampsora repentis** Plowr., Syn: Mel. orchidi-repentis Kleb., Caeoma orchidis (Mart.) Wt., Caeoma orchidum (R 79 [15]), Lit: R 02 a [291], Kleb. 05 [426].

St. I in the leaves of Orchidaceae, June—July, st. II—III in leaves of Salix July—Octob.

Orchis sambucinus. J. Agri (J. Christensen Hygum). *Orchis latifolius.* J. Skive!, Bruunshaab (Gad), Ans (Leth), Addit (June 71); F. Klingstrup, Vejstrup Aaskov (R 79 [15]), Faaborg; S. Saltbæk Vig; Møen Aborrebjærget ([30]/5 52). *Orchis incarnatus.* Læsø Storeholmemose (C. H. O.); J. Skive!; S. Saltbæk Vig, Søndersøen, Lyngby Mose ([14]/6 73 H. M. and again [3]/6 86 Raunkiær). *Orchis maculata.* Læsø (C. H. O.); J. Gaardbogaard, Floutrup!, Addit; F. Hundstofte; S. Saltbæk Vig. *Gymnadenia albida.* J. Vang (Ilsted). *Platanthera solstitialis.* Læsø Storeholmemose (J. P. J. & C. H. O.); J. Flade near Fredrikshavn!, Addit; F. Hundstofte Mose; S. Asserbo. *Salix repens* very common. *Salix rosmarinifolius.* S. Lyngby Mose (C. H. O.). *Salix aurita* × *repens.* J. Lyng Sø near Silkeborg.

1362. **Melampsora evonymi-capraearum** Klebahn 05 [425], Syn: Melampsora capraearum de C., Caeoma evonymi (Mart.) Tul., Lit: R 84 a [13] & 02 [291].

St. I on Evonymus europaeus, May—June, st. II & III on Salix cinerea, aurita & capraea.

Evonymus europaeus. J. Hansted Mose (Jeppesen); F. Dalum (Jak. Lge), Bøgeskovgaard (May 62), Holmdrup, Skaarup; S. Lyngby Mose (C. H. O.), Boserup (Thomsen), Alindelille.

1363. **Melampsora ribesii-viminalis** Klebahn, Syn: Mel. Hartigii Thüm. part., Caeoma ribesii Link; Uredo confluens Pers., Syn. [214]. Ribsbuskenes Kæoma (Lind & Ravn 10 [43] c. icon.), Lit: Kleb. 05 [419], R 88 n [41], R 02 a [291] c. icon.

St. I on leaves and berries of Ribes spp. April—May; st. II & III on Salix viminalis for the remainder of the growing period.

It must, however, be observed that two other species of Melampsora develop their caeoma on Ribes viz. Melampsora ribesii-purpureae Kleb. and Mel. ribesii-auritae Kleb. Those two which differ only in biological not in morphological respect are united by Bubak (08 b [200]) into one species: Melamp. ribesii-salicum; the former differs, however, from Mel. ribesii-viminalis by having its teleutosori on the underside of the leaves of Salix aurita, caprea, purpurea, purpurea × viminalis and — more seldom — on daphnoides, the latter has its teleutosori on the upperside of the leaves of Salix viminalis.

Ribes grossularia. J. Viborg;, Horsens (Jeppesen); F. Holmdrup ([3]/6 77 Exs. Thüm. Myc. no 1830), Skaarup ([26]/5 70); S. Hornbæk (C. Lütchen); Falst. Stubbekøbing. *Ribes rubrum.* J. Sæby, Viborg!, Spentrup (J. Sørensen), Aal near Varde, Vejle; F. Aabymark, Skaarup; S. Hornbæk (C. Lütchen), Lillerød

(Jørgen Paulsen), Buddinge, Ørsløv (P. N.). *Ribes nigrum.* J. Bratskov near Broust (J. Kjeldsen); F. Holmdrup; S. Præstevænget (C. H. O.), Ørsløv (P. N.). *Ribes alpinum.* F. Skaarup; Møens Klint ($^{16}/_{6}$ 77 H. M. and again $^{25}/_{6}$ 93 E. R.). *Salix viminalis* very common.

Caeoma laricis is a common name of all forms of caeoma found on the leaves of Larix in May-June. It is impossible, except by cultivating experiments, to tell to which species of Melampsora they belong. The following possibilities may be mentioned (see Kleb. 05 & R 02 a [291]):

Mel. larici-pentandrae Kleb. st. II—III on Salix cuspidata, fragilis, pentandra.

Mel. larici-caprearum Kleb. st. II—III Salix caprea.

Mel. larici-daphnoides Kleb. st. II—III Salix acutifolia, daphnoides.

Mel. larici-epitea Kleb. st. II—III Salix aurita, cinerea, viminalis × hippophaëfolia, caprea.

Mel. larici-populina Kleb. st. II—III Populus nigra, balsamifera, canadensis.

Mel. larici-tremulae Kleb. Syn: Mel. laricis Hartig (R 84 d [220] & 90 a [180]). Populus tremula, alba, alba × tremula.

Caeoma, in May, is certainly quite common, but very inconspicuous, noticed on:

Larix decidua F. Skelmose, Broholm, Vejstrupgaard, Svenborg; S. Tisvilde. Larix americana. F. Tange Skov ($^{27}/_{6}$ 81).

1364. **Melampsora salicina** Desm., Syn: Uredo farinosa Pers. Schum. no 1536, Melet Brandstøv (H. 37 [908]), Pilerust (R 02 a [290] & 04 a [52]).

It is also necessary that the species of Melampsora on the leaves of Salix should be listed summarily; at present it is quite impossible to classify every separate specimen under its proper species.

Salix acutifolia, alba, alba × amygdalina, alba × fragilis, amygdalina × viminalis, aurita, bicolor, bicolor × caprea, caprea, caprea × viminalis, cinerea, cinerea × viminalis, fragilis × pentandra, hastata, nigricans, pentandra, plicata, purpurea, purpurea × viminalis, Schraderiana, Schmithiana, very common.

1365. **Melampsora populina** (Pers.) Lév., Syn: Uredo populina Pers. Syn. [219], Schum. no 1539, Poppelens Brandstøv (H. 37 [908]), Poppelrust (R 04 a [52]).

Mel. populina is like Mel. salicina a common name for a series of species for which it is, at present, very difficult to determine the definite limit.

On *Populus deltoides, italica, nigra,* very common.

1366. **Melampsora aecidioides** (de C.) Schroeter, R 02 a [299].

This is a species which Schroeter and Rostrup have separated from

the other species of Melampsora, occurring on Populus, on the basis of its morphological character. The uredosori are surrounded by a circle of large whitish paraphyses. The teleutosori are placed like small brown crusts on the under-side of the leaves.

Populus alba & *alba* × *tremula*, common.

1367. **Melampsora cylindrica** (Strauss) Rostrup (77 b [151] & 02 a [299]). Its uredosori occur in great numbers on the lower side of the leaves of Populus, the uredospores are lengthened, almost cylindrical, and their membrane is furnished with coarse prickles. The teleutosori are only to be found on the upper side of the leaves. Most damaging to the cultivated species of Populus. June—October.

Populus angulata, balsamifera, candicans, ontariensis, trichocarpa, very common.

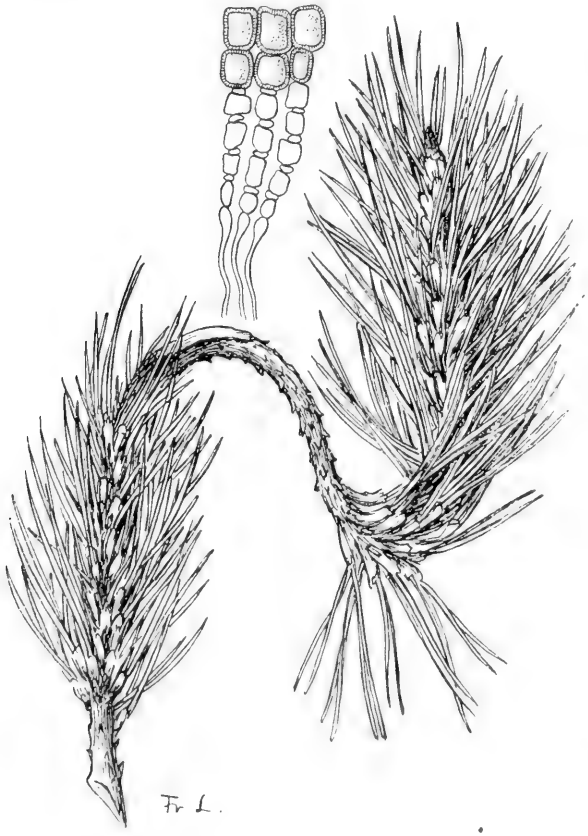


Fig. 25. Melampsora pinitorqua.
Pinus silvestris with caeoma. $\frac{1}{1}$. Caeomaspores enlarged. From R 02 a.

1368. **Melampsora pinitorqua** Rostrup (90 a [177—180]), Syn: Caeoma pinitorquum Al. Braun, Knækkesygesvamp, Lit: R 83 d [216], 89 a [10] c. icon., 02 a [294—298] c. icon., 04 a [52].

The fungus is able to kill trees not exceeding 1—3 years, when over 10 years they are no longer affected.

Pinus montana. J. St. Boust, Ulvehus (Videbæk), Dronninglund, Asaa (Colding), Høgildgaard, Femhøjsande (I. P. Bang), Margrethelund, Rindsholm (Gad), Skovsgaard by Viborg, Sofiendal, Klelund Plantage (Fritz), Holsted (Fritz); F. Lundeborg; S. Tisvilde. *Pinus silvestris*. J. St. Restrup (1874 P. E. Müller), Silkeborg, Sofiendal; Samsø Brattingsborg (Exc. [26]/7 87); F. Lundeborg. *Populus tremula* & *candicans*, common on the same localities.

1369. **Melampsora Rostrupii** Wagner, Syn: Caeoma mercurialis (Mart.) Link, Uredo confluens Pers., Schum. no 1532, Uredo farinosa Hornem. Fl. D. tab. 1367 fig. 2, Sammenflydende Brandstøv (H. 37 [907]), Lit: R 02 a [298].

St. I May—June, st. II—III July—October.

Mercurialis perennis. J. Krabbesholm Skov!, Vindum Skov (Gad), Bygholm (Jeppesen), Boller; F. Ellerup, Broholm, Tiselholt, Vejstrup Aaskov, Skaarup; S. Lystrup!, Charlottenlund (Mygge, Joh. Lge, F. K. R.), Tølløse (L. K. R.), Basnæs (P. N.). *Populus tremula* & *alba* on the same localities.

1370. **Melampsora Magnusiana** Wagner, Syn: Mel. Klebahni Bubak (see Klebahn 05 b), Caeoma fumariae Link, Caeoma chelidonii Schwein.

Chelidonium majus. J. Staby (Jeppesen), S. Brede ([27/5] 85 Raunkiær again [15/6] 93 F. K. R.). *Corydallis cava.* F. Verninge; S. Glænø (May 70 P. N.), Basnæs Skov (P. N.). *Corydallis intermedia.* S. Lystrup!. *Populus tremula.*

Melampsora tremulae Tul., Asperust (R 04 a [52]), Lit: R 02 a [298], Frank 96 [200].

The last three species as well as Melampsora larici-tremulae Kleb., all of which have st. II and st. III on the leaves of Populus tremula were — when their biological circumstances were found — separated into just as many species as forms of caeoma were found, although all three stadies were quite alike morphologically. Now Bubak has proposed (99 [26]) that they should be considered as one species, divided into more "Anpassungs-Formen". Rostrup also writes (02 a [298]) that they may be considered as biological species.

1371. **Melampsora hypericorum** (de C.) Schroeter, Perikonrust (R 04 a [52]).

Was formerly always considered a hemi-melampsora; according to the experiments of Tranzschel and Klebahn (05 b [106] c. icon.) this species must also be divided into more formae speciales of different cycles of life; the form on Hypericum humifusum has uredo and teleuto, but the form found on the other species of Hypericum has caeoma and teleuto.

Hypericum humifusum. J. Frederikshavn! (st. II abundantly); F. Fyens Hoved, Tangegaard, Holmdrup, Horne (J. Hansen); S. Fredriksdal, Charlottenlund (E. W.). *Hypericum hirsutum.* Møen, Liselund. *Hypericum pulchrum.* J. Bruddal!, Hobro ([28/7] 69), Mariager!, Vejle. *Hypericum montanum.* Møens Klint; B. Hammershus ([17/8] 86 R 06 dd [374] again Aug. 06 Neger 06 [366]). *Hypericum perforatum* common, noticed from: J. Dybdal near Aalborg (J. P. Johansen), Finderup; S. Herlufsholm (O. R.); L. Brønderslev; Møens Klint. *Hypericum quadrangulum.* J. Viborg!, Herning, Egebjerg near Horsens (Jeppesen); F. Ryslinge!, Glorup; S. Basnæs (P. N.), Stensby Skov (Thomsen); Møen, Liselund; B. Almindingen (R 06 dd [374]).

1372. **Melampsora helioscopiae** (Pers.) Cast., Syn: Uredo helioscopiae Pers. Syn. [215], Schum. no 1546, Vortemælkens Brandstøv (H. 37 [909]), Vortemælkrust (R 04 a [52]).

Aut-eu-melampsora, st. I (Caeoma) very inconspicuous, st. II & III abundantly from July to October.

Euphorbia exigua. Samsø; F. Tiselholt, S. Botanisk Have (E. W.), Taastrup, Roskilde (Thomsen), Ørsløv (P. N.), Næstved; L. Eskildstrup, Stensgaard. *Euphorbia peplus.* Læsø!; F. Ringe!, Skaarup; S. Fredriksdal (E. W.), Lyngby, Roskilde, Ørsløv. *Euphorbia helioscopia.* J. Ellidshøj!, Hald Egeskov (Gad); F. Skaarup (Aug. 63); S. Fredriksborg!, Brøndsholmsdal (Gad), Flaskekroen (Kjærskov), Roskilde (Thomsen), Ørsløv (P. N.) and many other places. *Euphorbia cyparissias.* F. Skaarup; S. Slagelse (P. N.). *Euphorbia tricostata.* S. Botanisk Have.

1373. **Melampsora lini** (Pers.) Tulasne, Syn: Uredo lini Pers. Syn. [216].

Aut-eu-melampsora. Its caeoma is very inconspicuous and was unknown till Arthur (07) made cultivating experiments with this species, proving that its III spores germinate at the end of April and spermogonies are produced in the middle of May and caeoma at the end of May. Formerly it was classified together with the following species. Rostrup was, however, aware (02 a [299]) that most likely there were two different forms. Liro (08 [557]) also emphasizes that there are morphological differences and Palm (10 [4]) has at last separated them completely.

Linum catharticum. Common.

1374. **Melampsora liniperda** (Koern.) Palm, Hørrust R 82 b, 93 c [72] & 04 a [52].

Koernicke records (77 [18]) that seedlings of Linum usitatissimum var. leucocarpum Kcke of seeds which he had obtained from the Botanical Garden of Copenhagen were highly infected by Mel. lini. var. liniperda Kcke; none of the other species of Linum in the immediate vicinity being affected. In 1876 he repeated his experiment with new seed from Copenhagen with the same result. He believes the fungus to have accompanied the seed, but he has not tried to prove whether the mother-plants were infected by fungi.

Linum usitatissimum. F. Skaarup; S. Lyngby (K. H.), Landbohøjskolens Have; L. Stensgaard, Bøllesminde (August 02).

1375. **Melampsora betulina** (Pers.) Tul., Syn: Uredo betulina Pers. Syn. [219], Melampsoridium betulinum (Pers.) Klebahn (99), Uredo betulae Schum. no 1538, Birkens Brandstov (H 37 [908]), Birkerust (R 82 b [10] & 04 a [53]), Lit: R 89 a & 00 k, Kleb. 05 [401].

Betula pubescens & *verrucosa* common. *Betula fruticosa.* S. Hæsede Planteskole.

1376. **Melampsora saxifragarum** (de C.) Schroet. Syn: Thecopsora sax. Magnus, Melampsora vernalis Niessl, Caeoma saxifragae Strauss.

The mycelium of the fungus hibernates in the host-plant (Liro 08 [554] & Bubak 08 b [209]); caeoma is very abundantly developed in April—June, st. II & III are rather inconspicuous.

Saxifraga granulata. J. Vridsted!, Viborg (Gad), Rind ([6]/5 69 Leth), Frisholt (Leth), Ebeltoft (J. Christensen Hygum), Hansted (Jeppesen), Horsens (Jeppesen); S. Gammelmose, Hellerup (Raunkiær), Roskilde, Herlufsholm, Glænø (P. N.); Am. Dragør (P. N.); B. common! (Exs. [15]/5 11).

Pucciniastrum (incl. *Thecopsora*).

1377. **Pucciniastrum ochraceum** (Bon.) !, Syn: Pucciniastrum agrimoniae eupatoriae (de C.) Lagerh. (95 [92]), Pucciniastrum agrimoniae (de C.) Tranz., Uredo potentillarum f. agrimoniae eupatoriae de Candolle Flore france, Coleosporium ochraceum Bonorden (Zur Kenntn. einiger der wicht. Gattungen der Coniomyceten. 1860).

St. I is unknown, st. II is rather common in June—October, st. III was first noticed by Rostrup Decemb. 28. 1873; but he did not publish this discovery until much later (96 m [131]).

The name of Bonordens which is the first name applied to this species, as a name of species, is for this reason prior to that used by de Candolle about 40 years earlier.

Agrimonia odorata. Thorseng Bukkehave. *Agrimonia eupatoria.* J. Tannishus!, Lønstrup (C. H. O.), Horsens (Jeppesen), Thyrsbæk!, Vonsbæk (P. N.); F. Skaarup ([16]/9 62 again [28]/12 73); Thorseng; S. Boserup Skov ([29]/7 74 Thomsen again [4]/10 96!); L. Pederstrup, Stensgaard, Sørup, Refshale; Falst. Sundby Skov (C. Thomsen); B. Helligdommen (Neger 06), Gudhjem!, Almindingen and Neksø (R 06 dd [374]).

1378. **Pucciniastrum padi** (Kze. & Schm.) Dietel, Syn: Melampsora areolata (Wallr.), Licea strobilina Alb. & Schw., Phelonites strobilina Fries S. M. III [191], Pomatomyces strob. Ørsted (63 b [249] c. icon.), Aecidium strobilinum (A. & S.) Rees, Laagrust (Ørsted 63 d). Lit: R 02 a [304], Lind 10 e.

The life cycle of the fungus takes two years; the sporidia from the leaves of Prunus padus infect the female flowers of Picea excelsa in April; the cones which are produced by the diseased flowers are penetrated by the mycelium of the fungus which produces aecidia on all the scales of the cones next year. From these the leaves of Prunus padus are again infected in June. Ørsted examined st. I, which had formerly been classified under Myxomycetes, and put it in its proper place of the system (Ørsted 63 a [81] & 63 b [245]). Common, noticed from the following localities:

Picea excelsa. J. Margrethelund!, Marselisborg, Oens Skov!; F. Kværndrup, Glorup, Brændeskov, Klingstrup; S. Ruderhegn!, Hvalsølille, Herlufsholm (O. R.). *Prunus padus.* J. Rindsholm (Gad); F. Boltinggaard!, Ryslinge!, Klingstrup, Vejstrup Aaskov (R 79 [17]); L. Christianssæde Skov (August 61); Falst. Hanenov.

1379. **Pucciniastrum chamaenerii** Rostrup 02 a [302], Syn: Melampsora chamaenerii Rostrup 84 g, Pucciniastrum abieti-chamaenerii Kleb. 05 [393], Melampsora epilobii part, Aecidium pseudocolumnare Kühn, Lit: Lind 10 e.

Heter-eu-pucciniastrum, st. I on the leaves of Abies in June—July, st. II and III on the leaves of Chamaenerium. July—October.

Abies alba. J. Haastrup!, Krabbesholm Skov! (R 05 b [308]), Vindum Skov!, Aalbæk near Støvring (Fritz); S. Fredriksværk (Helms); B. Almindingen (P. E. Müller see R 02 a [304]). *Chamaenerium angustifolium* common, f. inst. J. Krabbesholm Skov, Vinding Strandskov (Exc. [15]/7 72); F. Ryslinge!, Skaarup ([11]/7 69); S. Ruderhegn (Exc. [30]/9 82), Geel Skov; L. Knuthenborg (Exc. [2]/8 84); Falst. Hanenov; B. Almindingen. *Chamaenerium latifolium.* Landbohøjskolens Have (Sept. 83 and [18]/8 93 see R 88 b, 95 a [205] & 02 a [304]).

1380. **Pucciniastrum pustulatum** (Pers.)!, Syn: Uredo pustulata Pers. Syn. [219], Pucciniastr. epilobii (Pers.) Otth., R 02 a [302].

Rostrup has separated it from the preceeding species on account of biological circumstances. St. I is unknown, st. II is common from May till September, st. III is only scantily developed as is always the case with the Uredinales which — like the present — are supposed to possess all three stadies, but want the alternating host and, accordingly, are obliged to vegetate only by means of Uredo.

Epilobium palustre. J. Tversted!, Astrup in Salling (E. W.), Mønsted (Gad), Margrethelund (Gad), Viborg, Ulfborg (F. K. R.); F. Brændeskov, Klingstrup ([24]/6 74), Skaarup, Holmdrup; S. Gammelmosen (R 06 cc [356]); L. Lidsø (Exc. [4]/8 84); B. Almindingen. *Epilobium roseum.* J. Vejle Nørreskov; S. Vordingborg; B. Svaneke (R 06 dd [374]).

1381. **Pucciniastrum circaeae** (Schum.) Speg., Syn: Uredo circaeae Schum. no 1537 (see R 85 g), SteffensurtensBrandstov (H. 37 [908]).

Only st. II & III are known; on the leaves of Circaea, July—Septbr.

Circaea lutetiana. J. Krabbesholm Skov!; F. Skaarup; S. Herlufsholm (O. R.); L. Stensgaard (August 62), Bøllesminde, Hardenberg; Falst. Sundby (Thomsen); B. Helligdommen (Neger 06). *Circaea intermedia.* J. Bangsbo!, Eskær in Vendsyssel (P. N.), Silkeborg; F. Rygaard; S. Tokkekøb Hegn (C. H. O.), Aasevang, Fredriksdal ([7]/8 56 H. M.). *Circaea alpina.* J. Tyrsbæk, Munkebjerg (Exc. [25]/7 88); S. Slagelse.

1382. **Pucciniastrum pirolae** (Gmel.) Dietel.

Only st. II & III are known; on the leaves of Pirolaceae, June—September; st. III rare.

Ramischiae secunda. J. Lindum Skov (Lind 04), Vinding Skov (Exc. $^{25}/_{7}$ 88), Munkebjerg; S. Tisvilde, Vemmetofte Strandskov; B. Hammershus (Neger 06), Sandflugtskoven. *Pirola minor.* J. Skagen!, Raabjerg Mile (C. H. O.), Hobro!, Rindsholm, Kjeldkær (Jeppesen); S. Hornbæk Plantage (August 74 H. M. again $^{18}/_{7}$ 99), Tisvilde Hegn; Møens Klint; B. Almindingen. *Pirola media.* B. Almindingen ($^{3}/_{6}$ 84 and $^{13}/_{8}$ 86 R 06 dd ^{374}). *Pirola rotundifolia.* J. Raabjerg Mile (C. H. O.). *Moneses uniflora.* B. Sandflugtskoven (Erichsen 1873 again $^{25}/_{9}$ 09!), Almindingen (E. W.).

1383. **Pucciniastrum sparsum** (Wt.) Ed. Fischer.

Arctostaphylos uva ursi (hosp. nov.). J. Between Paarup and Hampen Sø ($^{27}/_{6}$ 91 see R 92 g ^{72}), Utoft Plantage.

1384. **Pucciniastrum vacciniorum** (Link) Lagerheim 95 ^{93}.

St. II June—Sept., st. III rare Sept.—Octob.

Vaccinium myrtillus. J. Bangsbo!, Flade!, Næsby, Mosskov, Undallslund, Rindsholm (Gad), Odder!, Bredsten (Jeppesen); F. Helager; S. Tokkekøb Hegn, Fredriksdal; B. Almindingen (Neger 06 & R 06 dd ^{374}). *Vaccinium uliginosum.* J. Hulsig!, Skarild (Jeppesen), Bordrup Klit; S. Tisvilde, Teglstrup Hegn, Tokkekøb Hegn. *Vaccinium vitis idaea.* J. Dronninglund, Stoholm!, Feldborg, Silkeborg, Addit Skov (June 71); F. Hals, Helager; B. Almindingen. *Oxycoccus palustris.* J. Lindum (Lind 04); S. Teglstrup Hegn, Gammelmosen (R 06 cc ^{356}).

1385. **Pucciniastrum galii** (Link) Ed. Fischer, Syn: Thecopsora galii (Link) de Toni, Syll. VII ^{765}, Uredo sherardiae Rostrup in Thüm. Mycot. no 1348, Caeoma asperulae Rostrup 89 h (see also Lagerh. 95).

St. II June—October even in December, st. III rare October.

Sherardia arvensis. F. Skaarup ($^{8}/_{6}$ 78 Exs. Thüm. Myc. no 1348). *Asperula odorata.* J. Elling Skov and Tingstedholm Skov near Horsens (Jeppesen); Thorseng Horse Skov; S. Slangerup! (Exs. Syd. no 2193), Bidstrup Hegn, Dronninggaard, Geelskov, Jægersborg Hegn. *Galium harcynicum* (hosp. nov.). S. Slagslunde Skov (A. Lge Exc. $^{6}/_{10}$ 07). *Galium mollugo.* Møens Klint!.

Melampsorella.

1386. **Melampsorella cerastii** (Pers.) Wt., Syn: Uredo cerastii Pers. Syn. ^{219}, Mel. caryophyllacearum (de C.) Schroeter, Aecidium elatinum Alb. & Schw., Peridermium elatinum (A. & S.), Ædelgranens Heksekostrust (R 89 a & 90 a ^{192}); Ædelgranens Troldkostrust (R 96 q ^{118}), Lit: R 85 a, R 02 a ^{323} & ^{634} c. icon., Klebahn 05 ^{396}.

St. I is perennial in the branches of Abies alba; it may be found on trees of all ages from two years up to seventy years (R 88 k ^{5}) where it produces witches-brooms, this st. was first found June 3. 1884 at Almindingen in the Island of Bornholm (R 90 a ^{192}) where it is rather common; except in Bornholm it has only been found in few

places in Denmark whereas st. II & III are very common all over the country on many species of Caryophyllaceae, from May to September; also st. II has perennial mycelium; concerning its morphology see Liro 08 [490] and Magnus 09 c. icon.

Abies alba. L. Pederstrup Skov (H. Bojesen); Møen Marienborg Dyrehave (R 95 a [205]); B. Rø (E. W.), Almindingen in abundance (Neger 06). *Cerastium glomeratum*. S. Marienlyst by Vordingborg (Jeppesen). *Cerastium caespitosum*. J. Blokhus (Gad), Randrup (Gad); Thorseng Valdemarslot ([21]/5 72); S. Lyngby!, Lekkende; B. Hammeren (E. W.), Vang. *Cerastium arvense*. F. Skaarup; S. Vordingborg (Jeppesen); B. Vang (Ilsted see R 06 dd [374]). *Stellaria holostea*. J. Daugbjerg!; F. Dalum (Jac. Lge), Skaarup; S. Boserup (Thomsen), Vemmetofte, Stigsnæs (Exc. [23]/6 07); Ørsløv (P. N.), Iselingen (Jeppesen); Møen Lilleskov; B. Almindingen. *Stellaria palustris*. J. Halskov Mose by Højslev!; S. Gammelmosen ([19]/6 84—[28]/9 94 abundantly R 06 cc [356]). *Stellaria graminea*. J. Skive!, Vindum Skov (Gad); S. Tisvilde, Bidstrup!, Ørsløv (P. N.); Møen Liselund; B. Almindingen (R 06 dd [374]). *Stellaria uliginosa*. S. Højslev!, Viborg!.

1387. **Melampsorella blechni** Sydow, Syn: Uredinopsis scolopendrii (Fuckel) Rostrup 97 m [42] partim.

The uredo-spores occur on the lower-side of the fronds as brown coloured tendrils, the spores are 35—45 μ × 15—20 μ, generally 38 · 17 μ.

Blechnum spicant. J. Ræbild Bakker ([26]/9 96), Addit Skov ([25]/9 97 see R 99 a [258]).

1388. **Melampsorella Dieteliana** Sydow Annal. myc. 1903.

Polypodium vulgare. J. Nørholm ([29]/9 03 see R 05 b [308]).

1389. **Melampsorella Kriegeriana** Magnus.

Aspidium spinulosum. B. Almindingen ([4]/9 98 see R 99 a [258] wrongly nominated Uredinopsis filicina, and R 06 dd [374]).

Hyalopsora.

1390. **Hyalopsora polypodii** (Pers.) Magnus, Syn: Uredo polypodii Pers. Syn. [217].

Uredo is found June—October, Teleutospores hyaline, teleutosori quite immerged in the tissue of the fronds.

Cystopteris fragilis. J. Gudumholm (Friederichsen); S. Brede ([14]/6 73 H. M., again [20]/10 78), Søllerød (Alf. Jørgensen), København, Svenstrup; L. Frejlev (R 99 b); B. Bodilsker (Alf. Jørgensen), Rønne.

1391. **Hyalopsora polypodii dryopteris** (Moug. & Nestl.) Magnus.

The uredo-spores are golden, and found in June—October; the teleutospores are hyaline and are collected in small groups in the tissue of the fronds.

Aspidium dryopteris. J. Fredrikshavn, Eskær in Vendsyssel ($^{31}/_{7}$ 71), Bruddal!, Hinnerup, Friisenborg, Silkeborg Nørreskov and Vesterskov, Addit Skov; S. Ruderhegn, St. Hareskov (C. H. O.), Tystrup Sø (Exc. $^{13}/_{6}$ 91).

Pucciniaceae.

Gymnosporangium.

All the Danish species of Gymnosporangium are rather uniform; st. I occurs on the leaves of Pomaceae; the spermogonia are very conspicuous as yellow, shining spots on the upper-side of the leaves; June—August; st. I called aecidium or roestelia does not appear until autumn on the lower-side of the same spots; st. II is wanting; st. III is perennial in branches of Juniperus; the sori appear in April and May, and in moist weather they are large and gelatinous. Both st. I and st. III early roused the attention of naturalists, thus Gymnosporium juniperinum is one of the few fungi described by Linné. It must be observed that the species of Gymnosporangium may cause formation of spermogonia also on other pomaceae than those on which it can produce aecidia (R 83 a).

1392. **Gymnosporangium sabinae** (Dickson) Wt., Syn: Tremella sabinae Dicks. Plant. crypt. Brit. 1785, Podisoma sabinae Tul., Puccinia juniperi Pers. Syn. [228], Tremella fusca de Cand. Encycl. VIII 1806, Gymnosporangium fuscum (de C.) Ørsted.

St. I. Lycoperdon cancellatum Jacquin. Fl. D. tab. 704, Roestelia canc. Rebent. Aecidium canc. Pers. Syn. [205], Gitter-Bævrerust (R 77 b [137]), Gitterrust (R 82 b [7]), Pæretræets Gitterrust (R 88 m [19], R 02 a [281] c. icon. Lind & Ravn 10 [32]), Lit: Ørsted 66 a, 66 b c. icon. opt., 68 a, R 84 g, 86 n, 97 c & 00 j.

Ørsted states (66 a [22] & 68 b) that it was found for the first time in this country in the garden of Vallø Castle 1855; Rostrup found it near Skaarup in 1862. According to the rules of nomenclature adopted by the Botanical Congress at Brussels 1910 the name bestowed upon it by Persoon in Synopsis ought to be preferred to the older one by Dickson; in the present case this would, however, be very inconvenient, so I hope that Dickson's name will be preserved.

Pirus communis. Slight attacks may occur in most gardens, more severe ones only where Juniperus sabina is planted in the neighbourhood. May occur both on leaves and on the fruit. *Pirus elaeagnifolia.* S. København (only spermogonia). *Juniperus sabina,* quite common in the gardens in all parts of Denmark; noticed from J., Samsø (Exc. $^{26}/_{7}$ 87), F., S., L., Falst. *Juniperus foetida.* F. Langesø (A. Andersen); S. Carlsberg (W. Johannsen). *Juniperus tamariscifolia.* S. Carlsberg (W. Johannsen).

1393. **Gymnosporangium confusum** Plowr., Syn: Roestelia mespili de C., Roestelia cydoniae Thüm., Kvæderust (Lind & Ravn 10 [34]).

Jak. E. Lange has told me that Gymnosporangium on Juniperus sabina in his garden at Dalum did not infect Pirus communis growing close by; on the other hand Crataegus monogyna was so densely overspread with roestelia that "a cloud of dust was always issuing from it as from a ripe Lycoperdon". The nearest part of the thornhedge was most severely affected; about 200 m from the Juniperus the attack ceased.

Rostrup mentions (02 a [284]) that in Denmark this roestelia has been found on Sorbus fennica and Pirus prunifolia; it must, however, be noticed that the leaves of the latter, contained in the herbarium, originate from Ørsted's herbarium without any statement of the findingplace, and the determination of the host-plant is also very dubious. Sorbus fennica has been gathered in Lolland in the garden of Aalholm Castle July 31. 79 and may, no doubt, be referred to this species; only spermogonia are present.

Mespilus germanica. S. Hæsede (R 88 c); L. Aalholm ([31]/7 79). *Cydonia vulgaris.* S Vemmetofte Have (only spermogonia). *Crataegus monogyna.* F. Dalum (Jak. Lge & ! Exs. Sydow). *Juniperus sabina.* Dalum (Jak. Lge). *Juniperus virginiana.* J. Horsens (A. P. Andersen); F. Dalum (Jak. Lge).

1394. **Gymnosporangium juniperinum** Fries S. M. III [506], Syn: Tremella juniperina L. Spec. plant. 1753 p. 1625, Tremella conica Hedw. f. 1802, Gymnosporangium conicum (Hedw.) R 82 b [8] & 83 d, Lycoperdon corniferum O. F. Müller in Fl. D. 1780 tab. 838, Roestelia cornifera (M) Rebent., Aecidium cornutum Gmlin 1791, Schum. no 1506, Roestelia cornuta (Gmlin) Fries S. V. [510], Hornet Støvskaal (H. 37 [903]), Bævre-Hornrust (Ørsted 66), Horn-Bævrerust (R 77 b [137]), Hornrust (R 82 b), Enens Bævrerust, Rønnens Hornrust (R 02 a [285] c. icon.), Kikbær (R 75 [23]).

St. III occurs both on leaves and branches of Juniperus communis; very common; it was formerly used as a drug against inflammation of the eyes and against rheumatism (see Linné Flora lapponica [388] & Pauli 61 [241]). Rostrup recommends (83 d [204]) the planting of Sorbus aucuparia and Juniperus communis together in gardens for decoration as he thinks the yellow-pied leaves ought to be preferred to the unicoloured green ones.

It is impossible that it should be this fungus which is delineated in the Fl. D. tab. 1378 fig. I as Tremella clavariaeformis because, in the text, it is stated to have been found "in stipitibus Pteridis aquilinae"; it must surely be Typhula quisquiliaris (Fries).

Sorbus aucuparia. Læso (J. P. J.); J., F., S. Hellebæk ([20]/7 1864 A. S. Ørsted), L., Falst., Moen, B. *Juniperus communis* on the same places.

1395. **Gymnosporangium clavariiforme** de Cand. fl. france II [217] 1805, Syn: Tremella clavariiforme Jacq. 1788, Aecidium oxyacanthae Pers. Syn. [206], Roestelia lacerata (Sow.) Mérat 1812, Hvidtjørnrust (R 02 a [286] c. icon., Lind & Ravn 10 [34]).

Crataegus monogyna & *oxyacantha*, common. *Crataegus monogyna rubra*. J. Viborg (Gad); L: Stensgaard. *Juniperus communis*, common. *Juniperus communis* f. *pyramidalis*. S. Forsthaven. *Juniperus communis* f. *hibernica*. J. Viborg (Gad).

1396. **Gymnosporangium tremelloides** (A. Br.) Hartig 1882. Syn: Podisoma tremelloides Al. Braun 1867, Lycoperdon penicillatum O. F. Müller Fl. D. tab. 839, Aecidium pen. Pers., Roestelia pen. Fries, Aecidium mali Schum. no 1507, Avlens Støvskaal (H. 37 [903]), Pensel-Bævrerust (R 77 b [136]), Penselrust (R 84 g & 04 a [51]), Æblerust (R 02 a [284], Lind & Ravn 10 [34]), Lit: R 92 t pag. XXXVII.

Pirus malus silvestris. Læsø abundantly!, J. Bangsbo (C. H. O.), Kaas!, Harrestrup ([24]/9 85 see R 88 c & 90 a [176]), Vinding Strandskov (Exc. [15]/7 72); S. Fredensborg, København, Boserup (C. Thomsen); Møen Ulfshale (O. Smith), Klinten; B. Almindingen. *Pirus malis hortensis*. S. Fredensborg, København, Roskilde (C. Thomsen), Svebølle!; B. Hammershus, Almindingen, Graneli (R 06 dd [375]). *Juniperus communis*. J. Harrestrup (Gad).

Puccinia.

1397. **Puccinia littoralis** Rostrup 1876 in Thüm. Mycot. no 327 (Thümen 77 [170]), Syn: Pucc. junci Wt., Sydow 04 [642], ? Uredo junci Strauss (Tranz 06 [7]), Aecidium sonchi Karsten non Westend. (Lgh. 91), Sivrust (R 04 a [41]).

Hetero-pucciniopsis; st. II has never been stated for certain; st. I in June—July on the leaves of Sonchus; st. III on stems and leaves of Juncus during the rest of the season. Rostrup and C. J. Johanson found both forms in such an abundance at Bjørnemose, that they had perforce to believe them to be related (R 99 a [259]), Tranzschel has later on (06 [7]) proved the correctness of Rostrup's supposition.

Sonchus arvensis. F. Bjørnemose! (Exs. Sydow no 2170); S. Søndersø, Ørsløv (P. N.), Snedinge (P. N.), Sallerupgaard (P. N.); L. Fuglsang Storskov. *Sonchus paluster*. F. Bjørnemose ([10]/7 83 Exs. Thüm. Myc. no 2232, Johanson Exs. Vgr. 251 again [10]/7 1907! Exs. Sydow no 2171). *Juncus compressus* & *Gerardi*. J. Horsens Fjord ([2]/9 76 Jeppesen again [4]/4 07! Exs. Sydow no 2169); F. Roholm, Svenborg!, Bjørnemose ([9]/9 1871, again 1875 Exs. Thüm. Myc. no 327, again [2]/9 82 Johanson Exs. Vgr. no 4); S. Glænø & Snedinge (P. N.); B. Svaneke (R 06 dd [373]).

1398. **Puccinia oblongata** (Link) Wt., Sydow 04 [646].

Only st. II & III are known, June—October.

Luzula pilosa. J. Sæbygaard Skov, Bækkelund (Gad), Silkeborg, Addit,

Nebsager!; F. Glorup; S. Fredriksværk, Ruderhegn, Geelskov; Falst. Hanenow; Møens Klint; B. Almindingen. *Luzula multiflora.* J. Uggerby Hede!; L. Bøllesminde. *Luzula silvatica.* J. Bækkelund (Gad).

1399. **Puccinia obscura** Schroeter, Syd. 04 [645], Syn: Aecidium bellidis Thümen, Frytlerust (R 04 a [41]).

Heter-eu-puccinia, st. I very rare in Sept.—Oct. st. II common all the year round, sometimes mesospores may also be found in abundance.

Bellis perennis. S. Boserup!, Glænø (P. N.); Amager (C. H. O.). *Luzula pilosa.* J. Silkeborg, Hansted (Jeppesen); F. Holmdrup; S. Basnæs (P. N.). *Luzula campestris.* J. Lerbæk!, Fanø (Bang); F. Tiselholt, Skaarup, Bjørnemose; L. Birket. *Luzula multiflora.* J. Margrethelund (Gad), Utoft; F. Lykkesholm Skov!, Skaarup; S. Tisvilde. *Luzula silvatica.* J. Buderupholm, Greisdalen; Fænø.

1400. **Puccinia eriophori** Thümen, Syd. 04 [686], Aecidium cinerariae Rostrup 84 a [17] c. icon., Kæruldrust (R 04 a [41]).

Rostrup found it June 24. 1883 (84 a [17]) when, in company with Johanson, he visited the eastern part of the St. Vildmose between Sdr. Elkjær and Ny Vraa; the aecidia had not been known before, and st. III which occurred abundantly on the hibernated leaves of Eriophorum was by that time only recorded from Siberia; later on Klebahn found st. I near Bremen (Kleb. 89 [332]). A related species, Pucc. eriophori alpini All. 84 [22], which Allescher found on Eriophorum alpinum at Berchtesgaden in Bavaria in May 1862 and which Liro (08 [184]) records from Finland must be biologically different from the present species as Cineraria palustris does not occur in Finland. Tranzschel has proved the correctness of Rostrup's supposition by experiments (09 [6]).

Cineraria palustris. J. St. Vildmose ([24]/6 83). *Eriophorum polystachyum.* J. St. Vildmose (Exs. Thüm. Myc. no 2234).

1401. **Puccinia scirpi** de C., Sydow 04 [688], Aecidium nymphoides de C.

Heter-eu-puccinia with perennial mycelium in Scirpus lacustris, st. I on Limnanthemum nymphoides is not found in Denmark.

Scirpus lacustris. S. Sjælso (R 05 b [307]), Langkildegaard!, Brøndbyvester (O. R.); B. Aarsdal (O. R. see R 06 dd [373]).

1402. **Puccinia caricis** (Schum.) Rebent., Sydow 04 [648], Syn: Uredo caricis Schum. no 1555, Fl. D. tab. 317 fig. 2, Aecidium urticae Schum. no 1510, Fl. D. tab. 2217 fig. 3, Neldens Støvskaal (H. 37 [903]), Star Brandstov (H. 37 [910]), Starrust (R 04 a [41]).

Heter-eu-puccinia; st. I on leaves and stems of Urtica which will often assume the most curious, twisted shapes from the attack of the fungus; May—June; st. II & III on leaves and stems during the rest of the year.

It is most likely that all the species of Puccinia occurring on the species of Carex are heteroecious, and this has now been proved by experiments for many species; concerning a number of species of Carex it is, however, not yet known among which species the uredo — and teleutospore — form occurring on them must be classified; the morphological signs give but little information as they are almost all very much alike. So I shall be obliged to state a number of forms under the name of Puccinia caricis although it may later on be proved that these forms should be named differently.

Urtica dioeca common. *Carex hirta* common. *Carex riparia.* J. Lerbæk Skov!; F. Holmdrup; S. Ørsløv (associated with Aecidium urticae). *Carex paludosa.* J. Rindsholm; F. Gudme, Holmdrup; S. Kulaas Skov; L. Stensgaard; F. Pandebjerg (P. N.). *Carex glauca.* J. Høgildgaard; Fænø. *Carex paniculata.* J. Rønde (J. Christensen Hygum); Falst. Blæsbjerg, Liselund. *Carex filiformis.* S. Fredriksdal, Lyngby Mose; L. Reersø. *Carex praecox.* F. Klingstrup. *Carex vesicaria.* F. Skaarup; S. Basnæs.

1403. **Puccinia Pringsheimiana** Klebahn, Sydow 04 [652], Aecidium grossulariae Pers. Syn. [207], Schum. no 1511, Stikkelsbær-Støvskaal (H. 37 [903]), Stikkelsbærrets Skaalrust (Lind & Ravn 10 [45] c. icon.), Ribs-Starrust (R 02 a [256] c. icon.), Lit: R 98 k, 02 o, 05 r.

Heter-eu-puccinia, st. I very common in May—June on leaves and fruit of Ribes, st. II & III on leaves and stems of Carex during the rest of the year; the species is distributed all over the country, and, particularly during late years, it has caused damage to the gooseberries in the gardens in Jutland. Rostrup reports (R 99 a [258] & 05 b [307]) an uncommonly severe attack on Ribes in the Garden of the Vet. & Agricult. College caused by the spreading of peaty earth containing remnants of leaves of Carex under the bushes.

Ribes alpinum common, f. inst. J. Skive!, Viborg (Gad); F. Skaarup (Exs. Thüm. Myc. no 625); S. Roskilde; Møens Klint etc. *Ribes aureum.* J. Himmelbjerget; F. Skaarup, Møen Stengaarden. *Ribes Biebersteinii* & *diacanthum.* S. Landbohøjskolen. *Ribes glaciale.* J. Viborg (Gad); S. Botanisk Have. *Ribes Gordonianum.* J. Viborg (Gad); S. Landbohøjskolens Have, Sorø!. *Ribes grossularia* common. *Ribes multiflorum.* J. Viborg (Gad); S. Fredriksberg. *Ribes nigrum.* F. Klingstrup and Holmstrup; Thorseng Bregninge; S. Furesø, Raadvaddam. *Ribes rubrum.* J. Snepstrup; F. Glorup, Klingstrup, Skaarup; S. Holte!, Virum!. *Ribes sanguineum.* J. Himmelbjerget; F. Havrehed. *Ribes stenocarpum.* S. Landbohøjskolens Have. *Carex stricta,* common.

1404. **Puccinia silvatica** Schroeter, Sydow 04 [656].

Heter-eu-puccinia, st. I June—July, rare; st. II—III quite common.

Taraxacum vulgare. J. Højslev!, Moesgaard!; F. Dalum (Jak. Lge), Tiselholt, Vejstrup. *Carex disticha.* S. Søndersøen. *Carex leporina.* Fæno, thrifty. *Carex pallescens.* S. Bidstrup Hegn, Basnæs (P. N.). *Carex panicea.* J. Skive!;

Fænø. *Carex pilulifera*. Møens Klint, thrifty. *Carex flava*. J. Sæbygaard; Fænø; S. Ørsløv (P. N.); Møen Busemarke Sø. *Carex silvatica*. S. Ledreborg, Basnæs.

1405. **Puccinia tenuistipes** Rostrup in lit., Lit: Klebahn 05 [307], Schroeter 89 [329], Syll. VII [628], Sydow [660].

Heter-eu-puccinia, st. I June; st. II & III on the leaves of Carex August—Nov.

Centaurea jacea. S. Jonstrup Vang. *Carex virens*. F. Vejstrup Aaskov ([21]/10 74). *Carex muricata*. F. Klingstrup, Vejstrup; Thorseng Nynyby.

1406. **Puccinia caricis montanae** E. Fischer.

Heter-eu-puccinia; st. I on leaves of Centaurea montana & scabiosa, hitherto not found in Denmark; st. II—III on the leaves and stems of Carex montana.

Tranzschel (09 [12]) wants to unite this species and the above one with Puccinia arenariicola Plowr., and three Russian species, all of which six species have st. I on Centaurea and st. II & III on Carex, into one species: Pucc. centaureae-caricis, only considering the six species as biological forms.

Carex montana. J. Harrestrup (st. III. Gad).

1407. **Puccinia dioecae** Magnus, Syd. 04 [653], Syn: Aecidium cirsii de C.

Heter-eu-puccinia, st. I May—July on Cirsium spp., st. II & III June—Octob. on Carex dioeca.

Johanson and Rostrup found well developed cluster-cups on the leaves of Cirsium in many places in Jutland during their journey in 1883 (see R 84 a [16]), and they were always able to find dead leaves of Carex dioeca affected with sori of teleutospores. Already three years before (1880) Schroeter had proved the genetic relation between the same two forms, but he had published nothing about it.

Cirsium acaule. S: Helene Kilde. *Cirsium arvense* & *Cirsium lanceolatum*. J. St. Vildmose ([24]/6 83 Johanson & R). *Cirsium oleraceum*. F. Stokkebæk ([13]/6 74), Vejstrup Aaskov: S. Roskilde Rørmose (C. Thomsen). *Cirsium palustre*. J. St. Vildmose (Johanson & R), Skive!, Hald (Gad), Buderupholm, Borre Sø: F. Skaarup, Holmdrup: S. Lyngby Mose, Sliminge: B. Valensgaards Mose! (Exc. [15]/5 1911). *Carex dioeca*. J. St. Vildmose, Skive!, Borre Sø ([20]/6 83 Johanson & R).

1408. **Puccinia extensicola** Plowr., Sydow 04 [667].

Heter-eu-puccinia, st. I on the leaves of Aster tripolium has hitherto not been found in Denmark, st. II & III on the leaves of Carex extensa.

Carex extensa. L. Lienlund near Nakskov ([27]/7 1863).

1409. **Puccinia uliginosa** Juel, Sydow 04 [673], Aecidium parnassiae Dub.

Heter-eu-puccinia, st. I on the leaves of Parnassia, June—July; st. II—III on Carex Goodenoughii and diandra.

Rostrup expressly points out (in his herbarium) that Carex diandra was surrounded by Parnassia which had been severely affected by aecidia.

Parnassia palustris common. *Carex Goodenoughii* common. *Carex diandra.* S. Søndersø ($^{6}/_{10}$ 89).

1410. **Puccinia limosae** Magnus, Sydow 04 [672], Aecidium lysimachiae (Schlecht) Wallr.

Heter-eu-puccinia, st. I on Lysimachia June—July, st. II—III on Carex.

Rostrup has referred the form on Carex chordorhiza to Puccinia dioeca (R 92 g [70]), the teleutospores are 38 μ long and 12—18 μ thick, the membrane is much thicker at the end, and the stem is light brown and as much as 64 μ long, so I must consider it most correct to class it under this species.

Lysimachia thyrsiflora & *vulgaris, Carex limosa* and *chordorhiza.* S. Lyngby Mose ($^{5}/_{6}$ 90 L. K. R. see R 92 g [70]).

1411. **Puccinia paludosa** Plowright, Sydow 04 [671], Aecidium pedicularis Libosch.

Heter-eu-puccinia, st. I June—July; st. II—III on Carex August—Nov.

Pedicularis palustris. J. Pinstrup Mose (Jak. Lge), Brassø near Silkeborg; Fanø (J. P. F. Bang); S. Søndersøen, Lyngby Mose. *Carex stricta.* F. Skaarup: S. Hvalsølille Sø. *Carex Goodenoughii.* Fanø. (J. P. F. Bang); Fænø: Thurø: S. Ørsløv (P. N. $^{2}/_{11}$ 1879).

1412. **Puccinia orchidearum-phalaridis** Klebahn, Sydow 04 [782], Aecidium orchidearum Desm., Lit: Cruchet 06.

Heter-eu-puccinia; st. I June-July on the leaves of Orchidaceae, st. II—III on the leaves of Phalaris arundinacea.

Epipactis latifolia. F. Stokkebæk. *Listera ovata.* F. Nyborg, Stokkebæk (Exs. Thüm. Myc. no 1714), Svenborg (P. N.); S. Sorgenfri, Ørsløv (P. N.); L. Søllested Skov, Bøllesminde; Møen Hunosøgaard!, Marienborg (P. N.). *Orchis incarnatus.* F. Vejstrup Aaskov; S. Jonstrup Søndersø (F. K. R.). *Orchis latifolius.* F. Dalum (Jak. Lge.), Stokkebæk, Hesselager, Klingstrup (June 75 Exs. Thüm. Myc. no 731); S. Even Sø. *Orchis maculatus.* F. Vejstrup Aaskov; S. Ørsløv (P. N.); L. Søllested Skov, Bøllesminde. *Orchis masculus.* J. Horsens (Jeppesen); F. Vejstrup Aaskov ($^{26}/_{6}$ 74); S. Ørsløv (P. N.). *Orchis purpureus.* F. Skaarup. *Platanthera chlorantha.* F. Hjallese (Jak. Lge.), Brændeskov; S. Ørsløv (P. N.); L. Stensgaard (Asta R.), Bøllesminde. *Phalaris arundinacea* common.

1413. **Puccinia sessilis** Schneider, Syd. 04 [781], Aecidium majanthae Schum. no 1518, Fl. D. 1435, Aecidium convallariae Schum. no 1519, Puccinia smilacearum-digraphidis Klebahn.

Heter-eu-puccinia, st. I on the leaves of Convallariaceae, May—June; st. II & III on the leaves of Phalaris.

Convallaria majalis, Majanthemum bifolium, Polygonatum multiflorum common. *Polygonatum officinale.* J. Clausholm (P. N.). *Polygonatum verticillatum.* J. Hinnerup; S. Ermelunden (H. M.). *Paris quadrifolius.* J. Krabbesholm Skov!, Stensballegaard Skov (Jeppesen); F. Skaarup, Holmdrup. *Phalaris arundinacea* common. *Phalaris arundinacea* picta. J. Dvergetved (V. S.).

1414. **Puccinia Winteriana** Magnus, Sydow 04 [783], Syn: Pucc. allii-phalaridis Klebahn, Aecidium allii ursini Pers. Syn. [210].

Heter-eu-puccinia, st. I May—June, st. II—III on the leaves of Phalaris.

Allium ursinum. J. Horsens (June 79 Jeppesen); F. Christiansminde ([15]/6 81 P. N. again [31]/5 83 Exs. Sydow no 2281).

1415. **Puccinia phalaridis** Plowr., Syn: Pucc. ari-phalaridis Klebahn, Sydow 04 [783], Aecidium ari Desm.

Heter-eu-puccinia, st. I May—June, st. II—III on the leaves of Phalaris.

The four last-mentioned species are all much alike in morphological respect; their st. II & III are developed on the same host and are not to be distinguished except by cultivating experiments; so Rostrup also unites them into one species which he names "Rørgræsrust" (R 04 a [39]).

Arum maculatum. F. Hesselagergaard (Joh. Lge), Skaarup, Tiselholt ([15]/5 62 again June 75 Exs. Thüm. Myc. no 536), Svenborg (P. N.); Ærø Rise (Jak. Lge); Langel. Faarevejle (Dalhoff); S. Stensby Skov near Vordingborg (C. Thomsen); Falst. Næsgaard Skov (Exc. [25]/6 11), Nykøbing Kohave (C. H. O.).

1416. **Puccinia graminis** Pers. Syn. [228], Syn: Uredo ferruginea Schum. no 1553 part., Uredo linearis Pers, Syn. [216], Uredo culmorum Schum. no 1575, Aecidium berberidis Pers. Syn. [209], Schum. no 1512, Aescidium berberidis Hornem. Fl. D. tab. 1605. Berberisrust, Græsrust (aut. plur.), Sortrust (R 97 i & 02 a [243] c. icon.), Lit. R 71 c. icon. 84 b, 85 j, 93 c [60] c. icon., E. & H. 96 [25] c. icon. opt.

Heter-eu-puccinia, st. I on the leaves and fruit of Berberis and on the fruit of Mahognia, June—July; st. II—III on the leaves and straws of Gramineae.

It is common all over the country on many different host-plants, it has, however, formerly been still more common, year after year causing great damage to the cereals. Scholer already worked ardently for the prohibition of barberry (see pag. 22), and Rostrup often advocated that barberry should be prohibited by law (92 c); it was, however, not until March 27. 1903 that the Barberry-Bill, prohibiting the growing of this bush all over the Kingdom of Denmark except

in the botanical gardens was passed (R. 04 b [399]); during the eight years which have elapsed since then barberry has little by little been exterminated, and, as was to be expected, this has had a considerable influence on the attack of Pucc. graminis, which is every year confirmed by the annual accounts of the diseases of the cereals (R 05 e [356] & R 06 a [82], F. K. R. 07 a & 09). Before 1903 the cereals were always attacked by Pucc. graminis when August was very rainy and sunshine was wanting thus f. inst. in 1889—94—95—97 & 1901 (see F. K. R. 09). Concerning diseases of the cattle caused by their eating rusty fodder see Oppermann 1879. Concerning the "formae speciales" into which this species may be divided see Er. & H. 96 and Er. 00.

Here I shall only state the host-plants quite summarily; most of them have been found by Rostrup and P. Nielsen.

St. I on *Mahonia aquifolia* (rare and thrifty), *Berberis brachybotrys, canadensis* (P. N. 76 a [160]), *caroliniana, crataegina, cretica, edulis, Guimpelii, heterophylla, macrophylla, sanguinolenta, serotina, sinensis, spathulata, vulgaris.* St. II & III on *Aegilops ovata, Agrostis alba, canina, vulgaris, Aira caespitosa, flexuosa, praecox, Alopecurus pratensis, Avena elatior, fatua, fatua × sativa, orientalis, sativa, strigosa, Briza media, Bromus arvensis, ramosus, secalinus, Calamagrostis lanceolata, Cynosurus echinatus, Dactylis glomerata, Festuca arundinacea, dertonensis, distans, gigantea, myurus, pratensis, Hordeum arenarium, bulbosum, europaeum, jubatum, maritimum, murinum, sabulosum, secalinum, sibiricum, Lolium multiflorum, perenne, temulentum, Poa Chaixii, pratensis, Secale cereale, Triticum caninum, compactum, durum, junceum × repens, monococcum, polonicum, repens, sativum, spelta, turgidum, violaceum, Weingärtneria canescens.*

1417. **Puccinia phlei pratensis** Er. & H. 96 [130], Syd. 04 [784], Timothérust (R 02 a [262] & M. L. M. May 10).

St. I unknown, st. II may remain viable over winter and thus perpetuate the rust, even without the aid of other forms of spores; the black teleutosori appear Sept.—Nov. upon the stems and sheaths, rare. Was first found in this country by Ørsted (66 [19]) and P. Nielsen (77 a [41]).

Phleum pratense. Common.

Puccinia rubigo vera de Candolle.

Puccinia rubigo vera is a common name which was formerly used for quite a long series of different species of Puccinia on Gramineae. From the accounts and descriptions of the more ancient authors it is sometimes to be perceived which species they have been dealing with, but as a rule they have delt with all promiscuously. Puccinia straminis Fuckel almost means the same. It is only the excellent investigations of Jakob Eriksson and E. Henning which have properly distinguished between all the different species, still A. S. Ørsted, P. Nielsen and Rostrup have also assisted.

It has been proved that Aecidium asperifolii Pers. which was formerly considered st. I of all the species united under Pucc. rubigo is only corresponding to Puccinia dispersa. Fr. Müller has proved that an aecidium on Symphytum corresponds to Pucc. bromina, but both the said aecidial-forms have not by far as great a distribution as the corresponding uredo-forms, so it seems as if they are able to propagate independent of their aecidial stage, and vice versa. It may be concluded from this that all the species of Puccinia living on Gramineae will occasionally produce st. I, as is also known from Pucc. obscura, many species of Melampsora etc.

1418. **Puccinia dispersa** Eriksson, Syd. 04 [709], Syn: Aecidium asperifolii Pers. Syn. [208], Schum. no 1509, Fl. D. tab. 2219 fig. 1, Aec. borraginearum (P. N. 77 c [326]), Skarpbladenes Støvskaal (H. 37 [903]), Brunrust (R 02 a [249]), Rug Brunrust (M. L. M. April 10).

St. I occurs in August—October on Anchusa arvensis and officinalis, common; Schumacher states that he has found it on Echium vulgare and the same information is often repeated later on (for instance Lange 79), but nobody has found cluster-cups again on this host-plant so I suppose it to be a mistake. P. Nielsen has infected Secale cereale with Aecidium asperifolii (P. N. 77 a) as also Triticum but with greater difficulty. Rostrup has published st. I on Anchusa officinalis in Thüm. herb. mycol. oeconomic. no. 267. St. II—III occur on Secale (Er. 00) and are very common on this host-plant all the year round.

St. I. *Anchusa arvensis & officinalis.* St. II—III. *Secale anatolium, cereale, fragile.*

1419. **Puccinia bromina** Eriksson, Sydow 04 [712], R. 02 a [253], Syn: Uredo linearis Schum. no 1552 non Pers., Hejre-Brunrust (F. K. R. 07 [309], M. L. M. Iune 09), Lit: Müller 00.

St. I on Symphytum hitherto not found in Denmark; st. II & III common on all species of Bromus (incl. Schedonorus) during the growing season. P. Nielsen has noticed hibernating uredo on Bromus commutatus 1/5 1874.

St. II & III are noticed in Denmark on *Bromus arduennensis, arvensis, brizaeformis, commutatus, hordaceus, Hughii, mollis, purpureus, racemosus, secalinus, sterilis, tectorum.*

1420. **Puccinia triticina** Eriksson, Syd. 04 [716], R 02 a [253], Hvede-Brunrust (M. L. M. Juli 10).

St. I unknown.

Triticum spelta, turgidum, vulgare, not common.

1421. **Puccinia agropyrina** Eriksson, Sydow 04 [712], R 02 a [253].

Triticum repens common: f. inst.: F. Vejstrup Aaskov: Langl. Rudkøbing:

S. Ørsløv (P. N.). *Triticum caninum.* F. Hindsgavl, Vejstrup Aaskov, Svenborg; L. Stensgaard; Falst. Bangsbo Skov. *Triticum junceum.* J. Lønstrup; Vresen in Storebælt; S. Feddet near Lindersvold; L. Bredfjord.

1422. **Puccinia holcina** Eriksson, Sydow 04 [715], R 02 a [253], Fløjelsgræs-Brunrust (M. L. M. April 10).

Holcus mollis & *lanatus* common.

1423. **Puccinia triceti** Eriksson, Sydow 04 [716], R 02 a [253].

Trisetum flavescens. F. Skaarup; S. Bromme!, Ørsløv (P. N. [17]/11 74).

The six last-mentioned species were formerly united under the name of Pucc. dispersa (Er. & H. 96); as to the four last-mentioned species st. I is unknown.

1424. **Puccinia anomala** Rostrup, Thüm. Mycot. no 831, see also Thüm. 78 [92] and in Thüm. Herbar. myc. oeconom. no 451, R 02 a [262] etc., Syn: Uromyces hordei P. N. 75 b [567] c. icon. opt., Pucc. straminis var. simplex Koern. 1865, Pucc. simplex Er. + H. 96 not Peck, Sydow 04 [756], Pucc. hordei Otth. 1871 (see Fischer 08 [23]), not Pucc. hordei Fuckel 1860 (see Er. + H. 96 [238]), Bygrust (R 93 c), Lit: P. N. 77 a [35].

Fungus stylosporiferus: Uredo acervulis, sparsis, oblongis, minutis, bifrontibus, flavis; sporis ovoideis, 22—25 μ l 20 μ crass., germine ramosa.

Fungus teleutosporiferus: P. acervulis vaginalibus vel hypophyllis, parvis, irregularibus, obscuris; sporis oblongis vel clavatis, apice rotundatis, pedicellatis, laevibus, fuscis, plurime simplicibus, 32—36 μ × 18—20 μ, pauciores uniseptatis 40—50 μ × 20 μ, clavatis; paraphysibus nullis.

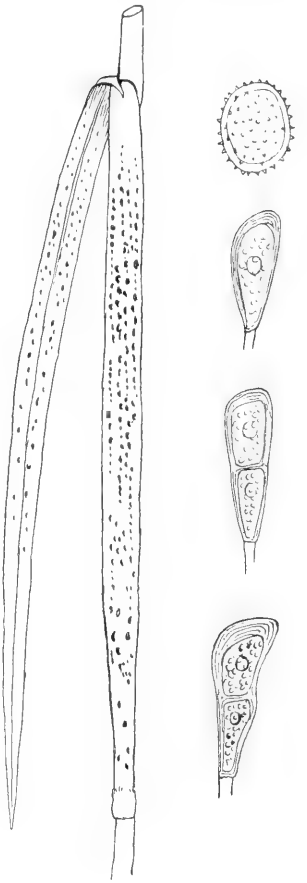


Fig. 26. Puccinia anomala. Habitus, uredo-, meso- and teleutospores. From R 02 a.

Dania; Skaarup ins. Fioniae in foliis culmis vaginisque subaridis Hordei Zeocritonis. Aut. 1876 leg. E. Rostrup. Obs. fortasse haec species identica est cum Puccinia straminis Fuckel var simplex Koern. in Thüm. Myc. oeconom. no 101 et in Landw. und forstw. Zeit. d. Prov. Preussen 1865 no 50.

It is quite wrong to call this species Pucc. simplex, as it is called

by Eriksson and Henning and after them by most other mycologists, because this name has been made use of before by Peck who, in 1883 used it for a Pucc. on Geum (34 Rep. of St. Mus. see Syll. VII [698]) and also because it has been applied as a name of variety and not as a name of species.

It is very common on all species of Hordeum; Rostrup considers it rather injurious (02 a [262]) while, on the contrary, Eriksson considers it insignificant (96 [240]). Magnus thinks (09 [320]) that this species is most closely related to Puccinia dispersa Er. & H. as also to Pucc. Elymi (West.).

Rostrup has recorded it on *Hordeum distichon, vulgare, haexastichon, zeocriton, macrolepis, trifurcatum, bulbosum, jubatum, murinum, secalinum, maritimum.*

1425. **Puccinia glumarum** (Schmidt) Er. & H. 96, Sydow 04 [706], R 02 a [259], 04 b [403] & 05 e [355], Pucc. tritici Ørsted 63 c [92] c. icon. opt., Pucc. straminis Fuckel part., Ørsted 66 b [28], etc., Avnrust, Klapperust, Bælgrust, Hvederust, Gulrust (Drejer & Liebm. 40, Ørsted, P. N. 74 a [291] & 74 c, R.).

Common; st. I unknown, st. II & III July—October.

Noticed on *Catabrosa aquatica* (R 95 a [204]), *Dactylis glomerata, Hordeum bulbosum, murinum, sativum, sibiricum, Secale cereale, Triticum amyleum, caninum, repens, sativum, spelta.*

1426. **Puccinia anthoxanthi** Fuckel, Sydow 04 [727].

St. I unknown, st. II common, the uredosori bearing usually a mass of spores, to be found throughout the growing season of the host; st. III rare Sept.—Oct.

Anthoxanthum aristatum (hosp. nov.) S. Ørslev (P. N.). *Anthoxanthum odoratum* common, Læsø, J., F., Thorseng, S., L., B.

1427. **Puccinia Baryi** (Berk. & Br.) Wt., Sydow 04 [737], R 97 d, Syn: Pucc. brachypodii Otth.

St. I unknown, st. II and III common throughout the season.

Brachypodium silvaticum. J., F., S. (P. N. 77 a [41]), L.

1428. **Puccinia milii** Eriksson, Syd. 04 [761].

Its development is like those of the two above-mentioned ones; has hitherto only been found in Denmark, Norway and Sweden.

Milium effusum. J. Fredrikshavn!, Bjørnager Skov (M. L. M.); F. Nørmarkskoven, Bjørnemose, Svenborg; S. Geelskov, Hareskov (Gad), Basnæs (P. N.), Holsteinborg ([29]/6 74 P. N.).

1429. **Puccinia pratensis** Blytt.

Avena pratensis. S. Næstved ([21]/8 74 P. N. st. II only, spores globose, 30 μ diam. the spore-membrane is tawny coloured, thick and furnished with short spikes).

1430. **Puccinia poarum** Nielsen 76 a [158] & 77 a [26] c. icon., Sydow 04 [795], Syn: Lycoperdon epiphyllum Müller 1767 [227] partim, Aecidium tussilaginis Pers. Syn. [209], Schum. no 1524, Fl. D. tab. 1366, Hestehovs Støvskaal (H 37 [905]), Følfod-Græsrust (R 93 c [68] & 02 a [256], M. L. M. Juli 10), Rapgræsrust (R 04 a [39]).

By his well-planned and carefully executed cultivating experiments P. Nielsen has proved the relation between the aecidia on Tussilago and st. II—III on Poa; st. II will always appear ten days after the sowing of aecidiospores and the teleuto-stage 6—28 days later.

P. Nielsen is of opinion that the first developed teleutospores infect the leaves of Tussilago at once while the last developed ones will hibernate; Lagerheim has made a similar observation (see Vgr. Micr. rar. no 685). Lagerheim has observed (Vgr. 02 [167]) that this species like many others is able to propagate only by means of the uredo-stage, and I have had it confirmed by seeing Pucc. poarum st. II on leaves of Poa alpina from the vast Breidamerkursandr (Iceland) many miles from the nearest plant of Tussilago. St. I generally occurs in May—August, st. II—III in July—October.

Whither all cluster-cups on Petasites belong to this species has not yet been proved (see Tranzschel 06); Bucholtz (05) and Schroeter (89 [326]) have found aecidia on Petasites, but they have made no cultivating experiments. As far as I can judge a Puccinia found at Lyngby by M. L. Mortensen on Lolium multiflorum may not be classed under any other species than the present one; uredosp. 20—28 μ diam., teleutosp. ~~41~~—72 μ × 25—28 μ; all other features like Pucc. poarum.

Tussilago farfarus very common. *Petasites alba.* J. Blaakilde ([24]/6 92 F. K. R.). *Poa annua, compressa, fertilis, nemoralis, pratensis, trivialis,* common.

1431. **Puccinia agrostidis** Plowright, Sydow 04 [717], Syn: Aecidium aquilegiae Pers.

Heter-eu-puccinia, st. I on Aquilegia, st. II—III on Agrostis alba & vulgaris.

Aquilegia vulgaris. J. Hvidemose in Vendsyssel (June 04 M. L. M.).

1432. **Puccinia arrhenatheri** (Kleb.) Eriksson, Sydow 04 [729], Syn: Aecidium graveolens Shuttleworth, Draphavrerust (R 04 a [40]).

Heter-eu-puccinia with perennial st. I in Berberis, st. II—III in Avena elatior.

It is a curious thing that st. I which is so conspicuous because of its producing witches-brooms on barberry has not been noticed in Denmark until the last years (see R 02 a [259]) while st. II—III are so common.

Berberis vulgaris. J. Skive (F. K. R. Sept. 03 see R 04 b [401]), Hald near Viborg!; F. Dalum (Jak. Lge see R 06 a [82]); Lang. Tranekær (Fabricius). *Avena*

elatior. J. Fredrikshavn!, Asdal, Buderupholm (J. P. Johansen); F. Knarreborg ($^{15}/_{7}$ 78), Tiselholt, Kristiansminde; S. Faxe, Skelskør (Exc. $^{23}/_{6}$ 07), Falst. Orehoved.

1433. **Puccinia brunellae-moliniae** Cruchet 06, Syn: Aecidium brunellae Wt.

Heter-eu-puccinia. Uredo is extremely rare, st. II & III very much like the following species. This species is very rare, Vestergren has found it in the Isles of Gothland (00 b) and Oesel (03 [84]), Schroeter has found it a few times in Silicia (89 [380]).

Brunella vulgaris. J. Jonstrup Vang ($^{13}/_{6}$ 80).

1434. **Puccinia moliniae** Tulasne, Syd. 04 [762], Syn: Pucc. nemoralis Juel, Aecidium melampyri K. & S., Blaatoprust (R 04 a [40]), Lit: Cruchet 06.

Heter-eu-puccinia, st. I June—July, st. II extremely rare, st. III the rest of the growing season and hibernating on the leaves of Molinia. I often found the two related forms growing together.

Melampyrum pratense. J. Lerbæk (C. H. O.), Søndermølle near Viborg!, Langaa!, Marianelund near Silkeborg, Himmelbjerget ($^{20}/_{6}$ 83 R and again $^{12}/_{6}$ 01!); S. Køge Aas (R 91 i). *Molinium coeruleum*. J. Søndermølle!, Silkeborg Nordskov, Glusted Sande; F. Glorup ($^{18}/_{8}$ 73), Skaarup, Trollehave; S. Snedinge (P. N.); L. Stokkemarke.

1435. **Puccinia elymi** West., Syn: Rostrupia elymi Lagerheim 89, Syll. IX [316], Pucc. triarticulata Berk. & Curt., R 88 c [87] & 92 g [69].

Heter-eu-puccinia, st. I June (—July), st. II—III August—October. Where this species does not find its alternating host it can propagate only by means of st. II; this form has (rather superfluously) been called Uredo elymi by Sydow. The genus Rostrupia is generally by recent authors reckoned among Puccinia (see also R 04 a [40]); in fact this species comes very close to the following one which has also very long teleutospores, but these are only 1-septated.

Thalictrum minus. Læsø Højsande (F. K. R.); J. Tannishus!, Blokhus (J. P. Johansen); S. Rørvig (R 92 u), Helsingør!, Saltbæk Vig, Vrøj and Mulen near Kallundborg (Exc. $^{16}/_{6}$ 00 & E. W. 06); F. Ludvigsgave (P. N.). *Hordeum arenarium*. J. Tannishus!, Jensgaard!; S. Tisvilde, Hundested, Klintebjerg, Jægerkroen (Exs. $^{2}/_{10}$ 1910), Køge (Exc. $^{7}/_{10}$ 94), Vemmetofte Strand (O. R.), Faxe Ladeplads, Næstved; Falst. Bøtø (P. N. $^{2}/_{10}$ 80).

1436. **Puccinia persistens** Plowright, Syd. 04 [825], Syn: Aecidium thalictri flavi (de C.) Wt., Aec. thalictri Grev., Kvikrust (R 04 a [40]).

Heter-eu-puccinia, st. I May—June, st. II—III later.

Thalictrum flavum. J. Lerbæk near Fredrikshavn (C. H. O.); F. Kristiansminde; Thorseng Greve; S. Kornerup Mose near Roskilde (Jak. Lge), Stigsnæs Skov (Exc. $^{25}/_{6}$ 07), Orslev (P. N. $^{10}/_{6}$ 73); L. Juellinge Kohave. *Triticum repens*. L. Juellinge Kohave (R 97 m [40]).

1437. **Puccinia perplexans** Plowright, Sydow 04 [719], Syn: Aecidium ranunculi acris Pers. Syn. [210], Rævehalerust (R 04 a [40]).

Heter-eu-puccinia, st. I Juni, st. II—III August—October.

Ranunculus acris. S. Vesterfælled (Raunkiær). *Alopecurus pratensis.* J. Tapdrup!; F. Broholm (R 00 a [20]); S. Ørsløv (P. N.); B. Nexø (R 06 dd [373]). *Alopecurus nigricans.* F. Skaarup ([20]/10 71).

1438. **Puccinia pygmaea** Eriksson, Sydow 04 [741].

St. I unknown, st. II July—August, st. III Sept.—Nov.

Calamagrostis epigejos. J. Sæby, Eskær Skov in Vendsyssel. S. Fredriksværk, Billesborg Skov, Basnæs (August 77 P. N.).

1439. **Puccinia phragmitis** (Schum.) Körn., Sydow 04 [787], Syn: Uredo phragmitis Schum. no 1554 (see R 84 a [9]), Aecidium rumicis Pers. Syn. [207], Schum. no 1520, Fl. D. tab. 1367 fig. 1, Syrens Støvskaal (H. 37 [905]), Rørrust (R 02 a [257] c. icon.), Tagrørrust (R 04 a [39]).

Heter-eu-puccinia, st. I fine white clustercups in large crimson patches on the leaves of Rumex and Rheum, June, st. II and III on leaves and sheaths of Arundo.

Rumex conglomeratus, crispus, domesticus, hydrolapathum, obtusifolius, Rheum cult. Arundo phragmitis.

1440. **Puccinia Magnusiana** Körnicke, Sydow 04 [785], Syn: Aecidium ranunculi Schum. no 1514, Fl. D. tab. 2216 fig. 1, Lit: R 06 cc [356].

Heter-eu-puccinia, st. I May—July on *Ranunculus bulbosus* & *repens*, st. II—III on leaves and sheaths of *Arundo phragmites*, common.

1441. **Puccinia Trailii** Plowright, Syd. 04 [790], Syn: Aecidium rubellum part.

Heter-eu-puccinia, very like Pucc. phragmitis, st. I on *Rumex acetosa*, st. II—III on leaves and sheaths of *Arundo*. Common.

1442. **Puccinia coronata** (Cda) Kleb., Syd. 04 [699], Syn: Aecidium frangulae Schum. no 1522, Fl. D. tab. 2218 fig. 2, Tørstetræ-Græsrust (R 00 a [20] & 02 a [255]), Lit: Mühlethaler 11.

Heter-eu-puccinia, st. I on Frangula alnus June—July, producing hypertrophies on leaves, blossoms and twigs; st. II—III on the leaves and sheaths of many Gramineae. Klebahn (04 [256]) and Eriksson (08) divide the species into more biological forms, and Liro (08 [157]) has found a morphological distinction to be present, the forms on Agrostis, Triticum repens and Calamagrostis arundinacea wanting paraphyses in the uredo-sori while the forms on the other species of Calamagrostis and on Sesleria coerulea have paraphyses, and also much larger uredospores.

Frangula alnus common. *Agrostis alba* & *vulgaris* common. *Agrostis canina.* J. Viborg. *Calamagrostis arundinacea.* J. Rindsholm!, Silkeborg Nordskov.

Calamagrostis epigejos. J. Fredrikshavn!: F. Lundeborg, Vejlø Kalv; S. Marienlyst: L. Aalholm. *Calamagrostis lanceolata*. J. Odden Skov!, Aalborg, Aunsbjerg!, Horsens!: S. Gammelmose (R 06 cc [356]), Hvalsølille, Basnæs (P. N.): L. Stokkemarke, Mariboe. *Calamagrostis arenaria* × *epigejos*. Falst. Grønsund. *Phalaris arundinacea*. J. Viborg (Gad): F. Lammehave!, Skaarup. Probably the forms found on the host-plants stated below also belong to this species: *Bromus erectus*. F. Skaarup. *Bromus ramosus*. F. Vejstrup Aaskov; S. Hareskov (Gad). *Milium effusum*. S. Basnæs (P. N.).

1443. **Puccinia lolii** Nielsen 74 a [296] c. icon. & 75 b [551] c. icon., Syn: Pucc. coronifera Klebahn, Sydow 04 [704], Uredo ferruginea Schum. no 1553 part., Aecidium rhamni Pers. Syn. [206], Aecidium crassum Pers Syn. [208], Schum. no 1508, Fl. D. tab. 2215 fig. 2, Aec. cathartici Schum. no 1523, Fl. D. tab. 218 fig. 3, Tyk Støvskaal & Vrietorns Støvskaal (H. 37 [905]), Korsved-Græsrust (R 00 a [20]), Vrietorn-Græsrust (R 02 a [253] c. icon.), Korsved-Kronrust (F. K. R. 06 [121]), Rajgræsrust (P. N. 74 a [296]).

Heter-eu-puccinia, st. I in June—July, st. II—III July—Nov.; it is divided in several "formae speciales" by Eriksson and Klebahn.

Rhamnus cathartica common. *Avena sativa* common. *Avena sativa* f. *nigra*. Ørsløv (P. N.). *Avena fatua* × *sativa*. S. Valby, Ørsløv (P. N.). *Avena fatua*. S. Bispebjerg: Møen Borre. *Avena orientalis*. S. Ørsløv (P. N.). *Avena strigosa*. Falst. Nykøbing. *Festuca arundinacea*. J. Klakring!: F. Bjørnemose; S. Holsteinborg & Snedinge (P. N.). *Festuca gigantea*. J. Lundby Krat near Aalborg (J. P. Johansen), Hvirring!. *Festuca heterophylla*. F. Svenborg (P. N.). *Festuca ovina*. S. Snedinge (P. N.). *Festuca pratensis* common. *Festuca rubra*. S. Basnæs, Snedinge & Ørsløv (P. N.). *Festuca rubra arenaria*. S. Ørsløv (P. N.). *Lolium multiflorum, perenne, temulentum* common. *Hordeum sativum*. F. Pandebjerg (P. N.): S. Ørsløv (P. N.). *Holcus mollis* & *lanatus* not uncommon.

1444. **Puccinia gibberosa** Lagerheim 1888, Sydow 04.

St. I unknown, st. II—III May—August. It is a very rare species which has hitherto only been found in Denmark and Germany. The teleutospores have finger-like prolongations like those of nos: 1442 & 1443.

Festuca silvatica. S. Hæsede Rende ([28]/6 82 and again [5]/8 87): Møen Lilleskov (Ant. Christensen).

1445. **Puccinia festucae** Plowright, Syd. 04 [752], Syn: Aecidium periclymeni Schum. no 1521, Fl. D. tab. 2218 fig. 1, Lonicerens Støvskaal (H. 37 [905]), Gedeblad-Græsrust (R 93 c [68] & M. L. M. Juli 10), Svingelrust (R 04 a [40]), Lit: R 02 a [258].

Heter-eu-puccinia, st. I common on the leaves and the young shoots of Lonicera periclymenum, May—July; st. II—III on the leaves and sheaths of Festuca, June—October.

Lonicera periclymenum, noticed from J., F., Thorseng, Lang., S. etc. *Festuca ovina*. B. Almindingen (R 06 dd [373]). *Festuca heterophylla*. F. Svenborg. *Festuca rubra*. J. Krabbesholm Skov!, Laurberg!: F. Skaarup; S. Basnæs (P. N.).

1446. **Puccinia porri** (Sow.) Wt., Sydow 04 [610], Løgrust (R 02 a [240] & 04 a [41]).

Plowright (89 [148]) has described the pseudoperidia and aecidiospores, and both Sydow and Rostrup mention st. I although they add that it is rare. On the other hand Tranzschel has proved by cultivating experiments that this species does not produce aecidia. No doubt the fact is that the species is to be divided into more biological forms of which some are dimorphic, others trimorphic; I have in vain looked for cluster-cups on Allium scorodoprasum and schoenoprasum, but they have been found for several years in May on Allium fistulosum in the garden of the Vet. & Agricult. College.

Allium scorodoprasum & schoenoprasum very common. *Allium montanum.* Lyngby (K. H.). *Allium fistulosum.* F. Odense; S. Landbohøjskolens Have, Kærehave!. *Allium ascalonicum.* S. Landbohøjskolens Have. *Allium porrum.* S. Ørsløv (Octob. 74 P. N.).

1447. **Puccinia asparagi** de Candolle, Sydow 04 [615], Aspargesrust (R 02 a [240] c. icon. & 04 a [42]), Lit: R 01 k & 02 g.

Heter-eu-puccinia, st. I scantily in June, st. II July—Sept., st. III wintering on the stems.

It attacks the monoecious plants more severely than the female plants (Bull. no 123 New-Yersey experim. station. New Brunswick 1898).

Asparagus officinalis. J., F. Skaarup (Octob. 72), Svenborg; S. Slagelse abundantly; L. Nakskov and many other places.

1448. **Puccinia iridis** (de C.) Wallr., Sydow 04 [598], Irisrust (R 02 a [265] & 04 a [42]).

Hemipuccinia, st. II & III July—October, in the gardens.

Iris pumila. F. Odense; S. Fredensborg, Vilvorde, Frederiksberg.

1449. **Puccinia acetosae** (Schum.) Kke., Syd. 04 [581], Syn: Uredo ac. Schum. no 1559, Syrens Brandstøv (H. 37 [910]), Syrerust (R 02 a [225]).

Hemipuccinia, st. II abundantly through the whole season, st. III scantily, in the autumn.

Rumex acetosa, acetosella, auriculatus common.

1450. **Puccinia polygoni** A. & S., Syn: Aecidium geranii pusilli Tranz., Pileurtrust (R 04 a [42]).

Heter-eu-puccinia; st. I very rare on Geranium, June, st. II & III common on the leaves of Polygonum July—October.

Geranium pusillum. Lyngby! (Exs. Syd. Ured. no 2175). *Polygonum convolvulus & dumetorum* common. *Polygonum tomentosum.* S. Ruderhegn (R 84 g [78]).

1451. **Puccinia polygoni amphibii** Pers. Syn. [227], Sydow 04 [568], Syn: Uredo polygoni Schum. no 1568, Fl. D. tab. 1318, Aecidium sanguinolentum Liro.

Heter-eu-puccinia, st. I on Geranium pratense, not found in Denmark, st. II—III on the upper-side of the leaves of *Polygonum amphibium*, common; one time only has Rostrup found Uredo on the lower side of the floating leaves of Polygonum (Christiansminde F. 2/9 82). This species is often united with no 1450.

1452. **Puccinia bistortae** (Strauss) de C., Sydow 04 [571].

It is impossible to make sure which of the numerous species have their st. II—III on the present Polygonum, either Pucc. cari-bistortae Kleb., Pucc. angelicae-bistortae Kleb. or perhaps another one.

Polygonum viviparum. J. Walbums Have ved Aalborg (Oct. 86 J. P. Johansen), Øst for S. Tranders (F. K. R.). *Polygonum bistorta*. J. Boller (Jak. Lge).

1453. **Puccinia arenariae** (Schum.) Wt., Sydow 04 [553], Syn: Uredo ar. Schum. no 1566, Uredo alsines Schum. no 1567, Pucc. dianthi de C., Leptopucc. dianthi R 02 a [270], Leptopucc. arenariae R 02 a [271], Nellikerust (R 88 n [38]).

Leptopuccinia; very common on all the host-plants stated below, the form on Dianthus caryophyllus is sometimes considered an independent species. And, vice versa, sometimes the two following species are classed under it; some cultivating experiments for proving the limitation of these species are wanting.

Cerastium caespitosum, Sagina maritima, apetala, ciliata, procumbens, subulata, nodosa, Ammodenia peploides, Arenaria serpyllifolia, Moehringia trinervia, Stellaria holostea, palustris, graminea, uliginosa, nemorum, media, Agrostemma githago (thrifty), *Melandryum rubrum, Dianthus barbatus* (Exs. Sydow no 1865), *plumosus, carthusianorum*.

1454. **Puccinia herniariae** Unger, Sydow 04 [558], Syn: Pucc. Montagnei de Toni, Syll. VII [722] (see Liro 08 [244]).

Herniaria glabra. F. Glorup (May 90 see R 92 g [69]).

1455. **Puccinia spergulae** de Candolle, Syd. 04 [566], Syn: Leptopucc. spergulae (de C.) R 02 a [270], Spergelrust (R 82 b), Lit: R 93 c [68].

Leptopuccinia. Its attacks are often rather destructive to the cultivated Spergula (see R 06 [93]).

Spergula arvensis, common.

1456. **Puccinia silenes** Schroeter, Sydow 04 [559], Syn: Pucc. lychnidearum Link.

Aut-eu-puccinia, st. I June—Sept., st. II—III July—Octob.

Silene venosa. S. Fredrikssund! (Exs. Syd.), Holte (4/9 87 E. W.), Lyngby (M. L. M.).

1457. **Puccinia calthae** Link, Sydow 04 [540], Kabelejerust (R 04 a [43]).

Aut-eu-puccinia, st. I June—July, st. II July—Sept., st. III August—October.

Caltha palustris, very common.

1458. **Puccinia Zopfii** Winter, Sydow 04 [542].

Aut-eu-puccinia quite as no 1457.

Caltha palustris. J. Rindsholm (Gad), Silkeborg Langsø (Jak. Lge), Borresø, Egebjerg (Jeppesen), Stensballesund (Jeppesen).

1459. **Puccinia singularis** Magnus, Sydow 04 [532], Syn: Pucc. Bäumleri Lagerh.

Micropuccinia, very rare, was found by P. Nielsen 15 years before both Magnus and Lagerheim described it at the same time.

Anemone ranunculoides. S. Snedinge Kirkeskov ($^{14}/_{5}$ 75 & $^{8}/_{5}$ 78 P. N. see R 92 g [68]).

1460. **Puccinia Baryana** Thümen, Syn: Pucc. compacta de By., Pucc. pulsatillae Kalchbr., Sydow 04 [536].

Leptopuccinia (R 92 g [68]), May—August.

Pulsatilla pratensis. S. Helsingør, Tisvilde Hegn (O. R.), Adserbo Overdrev, Ellinge ($^{30}/_{5}$ 89).

1461. **Puccinia pulsatillae** (Opiz) Rostrup, Syn: Puccinia subfusca Holway.

Comes very close to the following species and is often united with it. Rostrup has used this name in a catalogue of plants for exchange issued by the Botanical Society in 1881, in other places he has also used the names of Pucc. anemones and Pucc. fusca of the same. The affected plants cannot produce flowers (R 85 a).

Pulsatilla pratensis. S. Rørvig, Hundested, Arresødal, Herlufsholm ($^{11}/_{6}$ 80 O. R. Exs. Thümen Myc. no 2031 & Sydow no 2165).

1462. **Puccinia anemones** Pers. Syn. [226], Syn: Uredo anemones Schum. no 1560 (non Pers.), Pucc. fusca (Pers.) Wt., Sydow 04 [530], Micropuccinia fusca R 02 a [268], Anemonerust (R 04 a [43]), Lit: R 92 g [66].

Micropuccinia, the mycelium penetrates the whole host-plant, causing its petioles to grow longer and its leaves to be smaller than normal leaves.

Very common on *Anemone nemorosa.* April—June.

1463. **Puccinia drabae** Rudolphi, Syd. 04 [512], Syn: Pucc. ambiens Rostrup (Grønlund 79 [74] c. icon.).

Micropuccinia. It has its greatest distribution in arctic countries and in the Alps, it is exceptional that it should occur in a country with a climate like that of Denmark.

Draba incana. J. Kjul Aa ($^{19}/_{7}$ 01 L. K. R. & $^{27}/_{7}$ 02!).

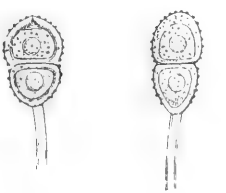


Fig. 27. Puccinia drabae. From Grønlund 79.

1464. **Puccinia dentariae** (A. & S.) Fuckel, Sydow 04 [511].

Micropuccinia; its mycelium penetrates the whole host-plant; Rostrup has planted rusty Dentaria in flower-pots, and the fungus appeared on the same plants in the succeeding year. It is a very rare species which has only been found in a few places in Central Europe (see Ouds. 85 c. icon., Bubak 08 [149], Vgr. Micr. no 770) and in Novaja Semlja (Ouds. 85).

Dentaria bulbifera. F. Bjørnemose ([11]/6 73 Exs. Thümen Myc. no 37 see also Lagerh. 95).

1465. **Puccinia Fergussoni** Berk. & Br., Sydow 04 [444].

Micropuccinia, June—Sept.

Viola epipsila. J. St. Vildmose (Raunkiær). *Viola palustris*. J. Flade!, Asaa (O. Paulsen), Sevel!, Harrestrup, Djursland (Christensen Hygum); F. Skaarup; S. Teglstruphegn; and many other places.

1466. **Puccinia violae** (Schum.) de C., Sydow 04 [439], Syn: Uredo violae Schum. no 1570, Fl. D. tab. 1317, Aecidium violae Pers., Schum. no 1516, Fl. D. tab. 2215, Pucc. violarum Ørsted 66 b [29], Pucc. depauperans (Vize) Sydow 04 [442], Pucc. aegra Grove, Violrust (Ørsted 66 b & R).

Aut-eu-puccinia; st. I May—July, st. II June—August, st. III July—Novb. May occur both on the leaves, petioles, stems and in the flowers of many species of Viola. The form on Viola tricolor and Viola cornuta seems to differ a little, the aecidial mycelium looks as if it were perennial and for this reason several mycologists have considered it an autonomous species "Pucc. aegra, Pucc. depauperans". Liro, however, has by cultivating experiments (08) proved that it is only the different host-plants which influence the growth of the mycelium in different ways.

Viola canina, hirta, mirabilis, silvatica, odorata common. *Viola stagnina*. S. Værslev Mose (H. M.). *Viola tricolor hortensis*. J. Skive!, Viborg (Gad). *Viola arvensis*. J. Thorsager, Stabelhøj & Agri Bakker (Christensen Hygum); L. Bredfjord. *Viola cornuta*. J. Astrup in Salling!, Ulfborg (Jeppesen); F. Holstenshus, Tiselholt; S. Ny Taarbæk (A. B.); B. Rønne. *Viola Riviniana*. S. Tudsenæs.

1467. **Puccinia malvacearum** Montagne, Sydow 04 [476], Leptopucc. malv. R 02 a [268] c. icon., Stokroserust (R 04 a [44]), Lit: Dybdahl 76 b, Neger 06 [367], Taubenhaus 11.

Leptopuccinia, on the leaves, petioles and stems of Malvaceae, June—Dec.

The quickness with which this fungus once spread all over Europe has been mentioned in many places (see "En Rustsvamps Indvandring i Evropa", Tidssk. for pop. Fremst. af Naturvid. R. V, Bd. I [140] and R 74 c). It was introduced into Spain from South America in 1869 and

was observed in France in 1871, in Germany 73, in Switzerland, the Netherlands and Italy in 75, in Russia 80, in Sweden 82, in Finland 1890, at the same time it also spread in Australia and Africa. Rostrup found it near Nyborg F. Aug. 29. 74 (R 74 c & 79 [23]), and Jeppesen was the first to find it in Jutland viz. near Horsens Septb. 6. 78. To judge by the statements at hand, its attacks have probably been somewhat more severe in the beginning than is now the case, Rostrup writes that in a short time the fungus would cause the most splendid Malvaceae to assume a miserable appearance. Rostrup has also on one leaf of Malva silvestris counted about 2000 sori, in each of which were found about 4000 teleutospores, each of which will produce eight basidiospores.

Althaea officinalis & *rosea* common. *Lavatera arborescens* & *Malva crispa*. S. Landbohøjskolens Have. *Malva silvestris* common, *Malva neglecta* & *rotundifolia* not uncommon.

1468. **Puccinia argentata** (Schultz) Wt., Sydow 04 a [450], Balsaminerust (R 04 a [44]).

Heter-eu-puccinia, st. I May on the leaves of Adoxa, st. II—III June—September on Impatiens.

Schroeter (89) considered this species a Hemipuccinia and Puccinia albescens a Pucciniopsis which opinion Rostrup and most other mycologists adopted till Bubak (04 [412]) by cultivating experiments proved that st. III of the latter species is an autonomous species of the type of Micropuccinia and that the cluster-cups are in genetical relation to Pucc. argentata. The aecidial mycelium penetrates the host-plant, either the whole plant or single branches, the cluster-cups break forth both on the stems, petioles, leaves and flowers (Liro 08 [277]). On Adoxa moschatellina there is also found a Aut-eu-puccinia, Pucc. albescens (Grev.) Plowr., which seems to be quite rare and not yet found in Denmark.

Adoxa moschatellina. J. Krabbesholm Skov!, Viborg!, Stensballegaard (Jeppesen); F. Glorup, Skaarup (May 68), Brændeskov; S. Lystrup!, Hørsholm!, Dronninggaard (F. K. R.), Ordrup Krat (E. W.), Søndermarken (K. M. Lind), Boserup (Thomsen), Holsteinborg & Basnæs (P. N. 77 a [41]); B. Gudhjem (Exc. [15]/5 11, Exs. Sydow no 2369). *Impatiens nolitangere*. J. Krabbesholm Skov!, Klakring (Jeppesen); Fænø; F. Ringe!, Rygaard, Vejstrup; S. Adlersborg (Th. Leth), Jægerspris, Fiskebæk!, Vintersbølle (Jeppesen).

1469. **Puccinia adoxae** Hedwig f., Sydow 04 [203], Desmerurtrust (R 04 a [44]).

Micropuccinia, May—June, the mycelium is perennial in the affected plants, producing only teleutospores year after year (see Plowr. 89 [207]), is often found together with Pucc. argentata st. I; not uncommon.

Adoxa moschatellina. J. Illeris Krat (Gad), Krabbesholm Skov!; F. Glorup,

Skaarup: S. Lille Hareskov, Jægersborg (Didrichsen), Ermelunden (E. W.), Boserup ($^{5}/_{5}$ 73 Thomsen), Hvalsø (Larsen), Ørsløv (P. N. 77 a [41]); B. Randkleven (Exc. $^{15}/_{5}$ 11).

1470. **Puccinia chrysosplenii** Greville, Sydow 04 [493], Milturtrust (R 04 a [44]).

This species is both Leptopuccinia and Micropuccinia some of the teleutospores growing the same summer, others not until the following summer. April—August.

Chrysosplenium oppositifolium. F. Rygaard Skov (parcimoniously). *Chrysosplenium alternifolium*. J. Flade near Fredrikshavn!: F. Rygaard, Brændeskov, Klingstrup ($^{31}/_{8}$ 70), Vejstrup Aaskov.

1471. **Puccinia saxifragae** Schlecht., Sydow 04 [500], Stenbrækrust (R 04 a [44]). Micropuccinia.

Saxifraga granulata. S. Herlufsholm (June 79 O. R.): B. Johns Kapel (Exc. $^{15}/_{5}$ 11).

1472. **Puccinia ribis** de Candolle, Sydow 04 [496], Syn: Aecidium fuscum Schum. no 1527 (non Pers.), Micropucc. ribis (de C.) R 02 a [266] c. icon., Ribsrust (R 04 a [45], Lind & Ravn 10 [47] c. icon.), Lit: R 01 g, 02 f, 06 l, Lind 10 k, Erikss. 98 c. icon.

Micropuccinia, July—October, on the leaves (only on the upper side) and fruit of Ribes rubrum, common in the gardens.

Recorded from J. Fænø: F. Skaarup ($^{18}/_{9}$ 74 Exs. Thüm. Myc. no 39): S., L., Møen, B.

1473. **Puccinia pruni spinosae** Pers. Syn. [484], Sydow 04 [484], Syn: Micropuccinia pruni R 02 a [267], Pucc. gemella Hedw., Aecidium punctatum Pers. Syn. [212], Blommerust (R 93 o [20], 02 a [267] c. icon., 04 a [45]).

Heter-eu-puccinia, st. I April—June on Anemone ranunculoides, the mycelium of the fungus penetrating the host plant and hibernating in the subterranean parts (Liro 08 [31]), st. II July—August, st. III August—October on the leaves of Prunus.

Anemone ranunculoides. F. Boltinggaard!, Vejstrup Aaskov, Tiselholt, Christiansminde: S. Charlottenlund ($^{6}/_{5}$ 55 Joh. Lge.). *Anemone nemorosa* × *ranunculoides*. F. Skaarup. *Prunus domestica*. J. Stensballe!, S. Høve (P. N.). *Prunus insititia*. F. Vængemose, Ø. Aaby. *Prunus spinosa*. J. Norhule (Jeppesen); F. Vængemose, Klingstrup (R 79 d [19]), Thorseng: S. Gandlose!, Sibberup (P. N.), Herlufsholm (O. R.); Falst. Liselund: B. Finnedalen & Almindingen (Neger 06 [367]).

1474. **Puccinia epilobii** de Candolle, Sydow 04 [427], Leptopuccinia ep. (de C.) Rostrup 06 cc [356].

Leptopuccinia, the mycelium is perennial in the subterranean parts of the host-plant.

Epilobium palustre. S. Gammelmose.

1475. **Puccinia epilobii tetragoni** (de C.) Wt., Sydow 04 [424], Syn: Pucc. pulverulenta Grev., R 79 d [13], Dueurtrust (R 04 a [45]).

Aut-eu-puccinia; the mycelium is perennial (Liro 08 [31]), May—June, st. II June—August, st. III August—Nov.

Epilobium hirsutum & *montanum* common. *Epilobium hirsutum* var *micranthum*. S. Botanisk Have!. *Epilobium lanceolatum*. S. Thorvaldsensvej (Joh. Lge.). *Epilobium roseum*. S. Botanisk Have (F. K. R.).

1476. **Puccinia circaeae** Pers. Syn. [228], Sydow 04 [422], Steffensurtrust (R 04 a [45]).

This species is both Leptopuccinia and Micropuccinia, the teleutospores of the first outbreaking sori is growing the same summer, the later not until the following summer.

Circaea intermedia. S. Søholm. *Circaea lutetiana*. J. Bjørnager !, Skærris (Gad), Krabbesholm Skov!, Brabrand!, Kolding; F. Ryslinge!, Klingstrup (see Lagh. 95), Vejstrup, Skaarup (Exs. Thüm. Myc. no 237); S. Aasevang, Boserup ([14]/10 73 Thomsen again [4]/10 96!), Hylleholt, Basnæs (Jeppesen), Herlufsholm (O. R.); L. Stensgaard, Bøllesminde; Falst. Nykøbing, Liselund.

1477. **Puccinia bupleuri falcati** (de C.) Wt., Sydow 04 [364], Liro 02 [131].

Aut-eu-puccinia.

Bupleurum tenuissimum, Thorseng Mouet ([16]/9 09 Edv. Keld).

1478. **Puccinia aegopodii** (Schum.) Martius, Sydow 04 [353], Liro 02 [113], Syn: Uredo aegopodii Schum. no 1572, Skvalderkaalrust (R 04 a [45]).

Micropuccinia with some few uredospores in the teleutosori.

May—Sept. common on the leaves and petioles of *Aegopodium podagraria*.

1479. **Puccinia saniculae** Greville, Sydow 04 [413], Liro 02 [126], Sanikelrust (R 04 a [45]).

Aut-eu-puccinia, st. I June—August, st. II Aug.—Sept., st. III Octob. —Dec.

Sanicula europaea. J. Lundby Krat near Aalborg (J. P. Johansen), Skovsgaard near Viborg!, Riis Skov (Gad), Boller!, Bjerre Herred!, Barritskov!, Kolding (Jeppesen); F. Dalum (Jak. Lge), Vejstrup ([23]/12 73 R 79 g [23]), Skaarup (Johanson see Liro), Christiansminde (Jeppesen); L. Hardenberg; Falst. Ourupgaard; Møens Klint (Exc. [12]/6 09).

1480. **Puccinia pimpinellae** (Strauss) Link, Sydow 04 [408], Liro 02 [29], Pimpinellerust (R 02 a [242] & 04 a [46]).

Aut-eu-puccinia, st. I May, st. II June—Sept., st. III July—October.

Pimpinella saxifraga common. *Pimpinella nigra*. J. Margrethelund!. *Pimpinella magna*. L. Stensgaard, Sørup.

1481. **Puccinia apii** Desmazières, Sydow 04 [359], Liro 02 [99], Sellerirust (R 02 a [242], Lind 11 a).

This species is generally stated to be an Aut-eu-puccinia, all authors, however, refer only to Plowright (89 [156]) who has not tried to cultivate this fungus, but has only found it on the same host. Juel (99) has examined the cluster-cups finding them to belong to the same type as the numerous other aecidia on Umbelliferae related to Uromyces scirpi. Further Liro has found (02 [98]) that st. II & III are most like the type of Pucc. bullata.

It is curious that this rust which, according to Rostrup's statements (88 a [388]), was so common in 1887 that all leaves of Aprium brought to the market were red and dusty, should now have quite disappeared from the country; I have often looked for it without finding it, Klebahn also states (10) that he has been unable to find it near Hamburg; Liro (02) mentions it to have been found in Sweden in the years 1866—1885, but not later; in Switzerland it seems not to have been found since the years 1878 and 1883 (Fischer 04 [119]). Without doubt it is due to the fact that the horticulturists now grow celery of a higher power of resistance.

Apium graveolens. Thorseng Bukkehave ($^{7}/_{9}$ 79): S. Flaskekroen (1884), Roskilde ($^{4}/_{11}$ 90 Wendt), Basnæs & Snedinge (P. N. $^{24}/_{10}$ 74—$^{5}/_{9}$ 79): Amager abundantly (Aug.—Sept. 1887).

1482. **Puccinia conii** (Strauss) Fuckel, Sydow 04 [375], Liro 02 [88].

Brachypuccinia, st. II an the leaves, petioles and fruits June—July, st. III on the leaves and stems during the rest of the season.

Liro mentions (02 [89]) that Johanson has found fruits of Conium (at Tiselholt Septb. 7. 82) which were quite filled inside with Uredo just as if they were attacked by smut.

Conium maculatum. J. Thorning!, Viborg!: Fænø: F. Ø. Aby ($^{20}/_{6}$ 70 see Lagh. 95), Tiselholt (Johanson), Skaarup: Thorseng Valdemarslot: Lang. Rudkøbing; S. København, Ørsløv (P. N.), Vordingborg (Thomsen); L. Kragevigshuse.

1483. **Puccinia cicutae** Lasch, Sydow 04 [399], Liro 02.

Aut-eu-puccinia, st. I June—July, st. II July—Aug., st. III Aug.—October.

It is a curious fact that this species is mentioned by all more ancient authors even from Lasch 1845 till Liro, in 1902 as a Hemipuccinia; st. I is probably not so common in other countries as in Denmark, but at any rate I have found this st. rather often and always in company with st. II (see Lind 04). Rostrup had already found it in 1884.

Cicuta virosa. J. Non Molle! (Exs. Vgr. & Sydow), Ved Sø (Gad), Fladbro (Exc. $^{22}/_{7}$ 04), Varde (Raunkiær): F. Ringe!: S. Gammelmosen ($^{19}/_{6}$ 84 st. I & II again $^{20}/_{6}$ 88 O. R. see R 06 cc [356]).

1484. **Puccinia bullata** (Pers.) Wt., Sydow 04 [403], Liro 02 [103], Syn: Uredo bullata Pers. Syn. [222].

Brachypuccinia, primary Uredo on the leaves (especially on the veins) and petioles, deforming and curving them, June—July, secondary Uredo and st. III July—Oct.

Cnidium venosum. S. Flaskekroen (O. R.). *Peucedanum palustre*. J. Flyndersø!, Sparkær!; F. Skaarup; S. Bidstrup, Lyngby Mose!, Gammelmosen; L. Stokkemarke, Reersø, Krungerup, Borgø (Exc. 3/8 84); Falst. Liselund; B. Almindingen.

1485. **Puccinia chaerophylli** Purton, Sydow 04 [367], Liro 02 [13].

Aut-eu-puccinia, st. I May-June, st. II June—Aug., st. III July—Oct.

Anthriscus silvester & *Myrrhis odorata* very common.

1486. **Puccinia libanotidis** Lindroth, Sydow 04 [392], Liro 02 [92].

Brachypuccinia.

Libanotis montana. F. Langshoved; L. Bredfjord (30/7 78 again Exc. 4/8 84).

1487. **Puccinia petroselini** (de C.) Liro, Sydow 04 [399], Liro 02 [84].

Brachypuccinia, st. II June—August, st. III Aug.—October.

Aethusa cynapium common.

1488. **Puccinia angelicae** (Schum.) Fuckel, Sydow 04 [356], Liro 02 [97], Syn: Uredo angelicae Schum. no 1571.

Brachypuccinia, primary uredo May—June, secondary uredo & st. III July—August.

Archangelica sativa. J. Koldingfjord; Thorseng. *Angelica silvestris*. J. Ribberholt Skov!, Vejle; Thurø; Møen Lilleskov.

1489. **Puccinia Karstenii** Lindroth, Sydow 04 [358], Liro 02 [119].

Micropuccinia with few uredospores in the teleutosori, sori in yellow and swollen spots on the veins of the leaves, June.

Angelica silvestris. J. Ryde Mølle! (6/6 02): S. Bidstrup!.

1490. **Puccinia oreoselini** (Strauss) Fuckel, Sydow 04 [401], Liro 02 [57].

Brachypuccinia.

Peucedanum oreoselinum. B. Almegaard near Rønne (15/9 88 see R 89 i [229]).

1491. **Puccinia heraclei** Greville, Sydow 04 [387], Liro 02 [40].

Aut-eu-puccinia, st. I May—June, st. II June—August, st. III July—Octob.

Heracleum sphondylium. J. Buderupholm, Krabbesholm Skov!; F. Skaarup (July 63).

1492. **Puccinia Passerinii** Schroeter, Sydow 04 [585], Syn: Pucc. thesii (Desv.) partim, Naalebægerrust (R 04 a [46]).

Pucciniopsis with perennial mycelium, st. I May—June, st. III June

—August. It has been found rather often during the years from 1856 to 1892 in the same locality, S. Jonstrup Vang (by H. M. and others, see Lagerheim 95, Exc. 19/6 81), and numerous specimens of it are contained in the herbariums and are always named Pucc. thecii (Desv.). Now Thecium ebracteatum has been completely exterminated in Denmark and with it its Puccinia.

1493. **Puccinia Valantiae** Pers. Syn. [227], Sydow 04 [217].

Leptopuccinia, May—Sept.

Galium harcynicum. J. Sørig Mose!, Hjarbæk!, Mariager!, Silkeborg, Gjødstrup, Borris Hede (F. & W. 08); F. Kirkeby, Skaarup (Septb. 74 Exs. Thüm. Myc. no 38 "Pucc. acuminata Fuck.").

1494. **Puccinia punctata** Link, Sydow 04 [213], Syn: Pucc. galii & galiorum auct., Snerrerust (R 04 a [47]).

Aut-eu-puccinia, st. I June, st. II July—August, st. III Sept.—Octob.

It has been demonstrated by Wurth (04—05) that Pucc. punctata ought to be divided into more "formae speciales", he has also proved that the aecidial mycelium is able to produce uredospores as well.

Galium mollugo & verum common. *Galium silvestre.* J. Skørping, Dommerby!.

1495. **Puccinia deminuta** Vleugel 08 [318] c. icon.

Aut-eu-puccinia. On account of the smaller size of the teleutospores Vleugel (08 [318]) has separated Pucc. deminuta; Liro (08 [332]) has stated that the uredospores on Galium palustre have their germinating holes placed somewhat differently on the spores than is the case with the other species of Galium.

Galium uliginosum. J. Bjørnager Mose!; F. Holmdrup 22/5 1866; L. Vesterborg. *Galium palustre.* J. Søvang!, Herning; Falst. Horreby Lyng.

1496. **Puccinia asperulae odoratae** Wurth 1904.

Aut-eu-puccinia, st. I April—May, st. II June—August, st. III Sept. —Nov.

Asperula odorata. J. Stensballe!, Kjeldkjær (Oct. 76 Jeppesen); F. Skaarup; Thorseng Horse Skov; S. Slangerup (Exc. 22/9 07), Vemmetofte; L. Sørup.

1497. **Puccinia ambigua** (A. & S.) Lagerheim, Sydow 04 [216].

Pucciniopsis with perennial mycelium, producing both aecidia and teleutosori.

Differs considerably in appearence from the other species of Puccinia, occurring on Rubiaceae; Rostrup (in herbario) calls it Puccinia truncata.

Galium aparine. J. Rindsholm (Gad), Vivebrogaard!, Fusingø! (Lind 04); F. Kongebroskoven (Exc. 14/7 72 see also Lgh. 95), Vejstrup Aaskov, Svenborg; S. Basnæs (P. N.), Hammer!; Falst. Ronnet.

1498. **Puccinia veronicae** Schroeter, Sydow 04 [256], Ærenprisrust (R 04 a [46]), Lit: R 95 g [150] & 92 g [69].

Leptopuccinia, July—September.

Veronica montana. J. Kalø, Stensballe!, Kolding; F. Hindsgavl (Exc. [14]/7 72), Lammehave!, Rygaard, Vejstrup Aaskov; Lang. Faarevejle (C. H. O.); S. Tureby!, Ørsløv (P. N.), Vintersbølle (Jeppesen); L. Stensgaard ([26]/7 62 Lgh. 95), Nobøllelund; Bogø; Falst. Stubbekøbing, Sundby Skov (Thomsen); B. Helligdommen (Neger 06), Almindingen (R 06 dd [373]).

1499. **Puccinia veronicarum** de Candolle, Sydow 04 [257], Lit: Fischer 98 [78].

This species is both Leptopuccinia and Micropuccinia.

Veronica spicata. J. V. Thorup ([15]/8 90 see R 92 g [69]).

1500. **Puccinia glechomatis** de Candolle, Sydow 04 [277], Korsknaprust (R 04 a [46]).

Leptopuccinia in summer and Micropuccinia in autumn as no 1499.

Glechoma hederacea. J. Bygholm ([1]/9 1877 Jeppesen again 1901!), Hvirring!, Barritskov!, F. Glorup, Skaarup ([18]/11 73); Thorseng Nørreskov; S. Fredensborg, Skarild Sø (E. W.), Slagelse, Basnæs (P. N.); L. Stensgaard; Falst. Grønsund.

1501. **Puccinia Rübsaamenii** Magnus 1904 c. icon.

Micropuccinia with perennial mycelium in the host-plant, causing it to produce annual witches' brooms and preventing it from flowering, July—August.

Origanum vulgare. S. Alindelille ([17]/8 1884 R 85 a "Pucc. caulicola"); L. Maribo; Møens Klint (R 89 i [230] & 92 g [71]), Høvlby.

1502. **Puccinia caulincola** Schneider, Sydow 04 [301], Syn: Pucc. Schneideri Schroeter, Timianrust (R 04 a [47]).

Like no 1501 a Micropuccinia with perennial mycelium, causing the host-plants to produce smaller leaves and stretched stems and branches, July—Sept.

Thymus chamaedrys. Samsø Hjortholm (Exc. [27]/7 88); F. Fyenshoved, Kirkeby, Lundeborg ([8]/7 1877 Thüm. Myc. no 1030), Hvidkilde; Møen Langebjerg. *Thymus serpyllum.* J. Hulsig (C. H. O.), Bagterp ([6]/8 74), Klitmøller; Anholt (O. Paulsen 98 [283]); Møens Klint.

1503. **Puccinia menthae** Pers. Syn. [227], Sydow 04 [282], Syn: Uredo menthae Pers. Syn. [220], Schum. no 1573, Mynterust (R 02 a [242] & 04 a [46]).

Aut-eu-puccinia. Its development is not quite the same on the different host-plants, and Cruchet has also proved by cultivating experiments (04 & 06) that the rust from one species of host-plants does not infect another host-species. Every year I have noticed that the lower part of the stem of Mentha viridis in the Botanical-Garden was

twisted and swollen and densely set with cluster-cups. As all fallen leaves are removed every year I suppose that the fungus has a perennial, aecidial mycelium; Klebahn has made the same observation (98 [28]), and Plowright writes (89 [158]): "The aecidiospore mycelium is probably perennial, at least this appears to be the case with Mentha viridis, which I have cultivated for a period of three years". (See also Hariot 08 [17]). St. I often occurs on Clinopodium, Rostrup has also found it a few times (92 g [71]) on Mentha aquatica and Origanum vulgare, but on the rest of the host-plants stated below only st. II & III are found; st. I April—June, st. II June—Septbr.; st. III October.

Mentha gentilis. F. Skaarup. *Mentha piperita*, F. Skaarup; S. Kalvebodstrand (A. B.). *Mentha crispa*. F. Skaarup; S. Slagelse!. *Mentha silvestris*. J. Sparkær! (Exs. Syd. no 2124); F. Vormark; S. Faarevejle!, Sollerup; L. Aalholm. *Mentha arvensis* & *aquatica* very common. *Mentha rotundifolia*. Falst. Stubbekøbing. *Mentha viridis*. J. Thorsager (Christensen Hygum); S. Botanisk Have, Landbohøjskolens Have, Ørsløv (P. N.). *Mentha verticillata*. J. Gaardbo (M. L. M.). *Mentha clinopodium*. J. Flade!; F. Ringe!, Magaard, Tiselholt, Skaarup; S. Fredensborg, Boserup!, Ørsløv (P. N.). *Calamintha acinos*. J. Aalborg!, Viborg!, Buderupholm, Bygholm (Jeppesen); Lang. Henninge; S. Fredriksværk, Ørsløv (P. N.), Herlufsholm (O. R.): Møens Klint. *Origanum vulgare* common, noticed from J., Thorseng, S., L., Falst., Møen (Exs. Syd. no 2319).

1504. **Puccinia gentianae** (Str.) Link, Sydow 04 [340], Ensianrust (R 04 a [47]).

Aut-eu-puccinia, st. I June, st. II July—Sept., st. III August—Octob.

Gentiana amarella f. *axillaris* (hosp. nov.). J. Løgstør Kanal! (Exs. Syd. no 2266, Exc. [28]/7 1910, R 05 b). *Gentiana pneumonanthe*. J. Raabjerg! (Exs. Syd. no 2121), Østerild, Hviemose!, Flyndersø (C. H. O.), Undallslund (Gad), Hygum.

1505. **Puccinia vincae** (de C.) Berk., Sydow 04 [338], Singrønrust (R 02 a [265]).

Aut-eu-puccinia, the mycelium of the aecidiospores is perennial, and causes the affected plants to produce shorter and thicker leaves (see Plowright 85 [108]).

Vinca major. S. København [16]/11 1888.

Puccinia compositarum Schlecht., Pucc. synanthearum and Pucc. inquinans Wallr.

They are common names used at differents periods by different authors for indicating more or less of the species of Puccinia occurring on Compositae; Rostrup often used these common names in his papers; recent mycologists (P. Magnus, Jacky, Bubak, Fischer etc.) have tried to separate the single species and to determine their proper limitation.

Till their proper classification has been proved by further examinations the following forms must be classed under this name.

Cnicus benedictus. S. Landbohøjskolens Have ($^{1}/_{10}$ 84). *Silybum marianum.* S. Landbohøjskolens Have ($^{23}/_{8}$ 90).

1506. **Puccinia bardanae** Cda., Sydow 04 [113].

Brachypuccinia, primary uredo on the upper side of the leaves June, secondary uredo and st. III on the under side July—Nov.

Very common on *Lappa nemorosa, officinalis, glabra, tomentosa.*

1507. **Puccinia tinctoriicola** Magnus, Sydow 04 [867], Syn: Pucc. tinctoriae Mg., Sydow 04 [150].

Brachypuccinia.

Serratula tinctoria. B. Helligdomsklipperne ($^{16}/_{8}$ 86 see R 06 dd [373]).

1508. **Puccinia carduorum** Jacky, Sydow 04 [33], Lit: Probst 08 [298].

Brachypuccinia with primary uredo, secondary uredo and teleuto.

On the leaves of *Carduus acanthoides* and *crispus,* common.

1509. **Puccinia cirsii** Lasch, Sydow 04 [55].

Brachypuccinia, very closely resembling no 1508.

Common on the leaves and stems of *Cirsium acaule, acaule* × *oleraceum, heterophyllum, oleraceum, palustre.*

1510. **Puccinia suaveolens** (Pers.) Rostrup 69 [28], Sydow 04 [855], Syn: Uredo suav. Pers. Syn. [221], Fl. D. tab. 1368, Uredo serratulae Schum. no 1556, Pucc. obtegens (Link) Tul., Sydow 04 [53], Vellugtende Rust (R 69 [28]), Tidselrust (R 02 a [265] & 04 a [48]).

Rostrup has discovered its life-cycle and described it in detail (74 a).

Brachypuccinia; its perennial mycelium produces primary uredo in May and June, preventing the affected plants from blooming, secondary uredo and teleuto June—Sept.

Very common on *Cirsium arvense.*

1511. **Puccinia cyani** (Schleicher) Pass., Sydow 04 [38].

Brachypuccinia; the mycelium is penetrating the host-plant, causing it to stretch its stems and branches and producing odoriferous spermogonia and primary uredo in abundance, quite as no 1510. It also attacks the cultivated forms of Centaurea cyanus in the gardens (R 90 I [579]).

Centaurea cyanus. J. Horsens!; F. Skaarup ($^{30}/_{9}$ 76); S. København; L. Stensgaard; B. Svaneke (R 06 dd [373]).

1512. **Puccinia cnici** Martius Fl. Mosq. 1817, Syn: Pucc. cirsii lanceolati Schroeter, Syd. 04 [51].

Schroeter (89) has called it a Brachypuccinia; from later investiga-

tions it has, however, been proved that it has an aecidial stage which occurs very rarely indeed and which is by the various mycologists considered to be ordinary cluster-cups (Liro 08 [341]) or caeoma (Bubak 08 b [77]). St. II is very common on both sides of the leaves of Cirsium lanceolatum, st. III August—September.

1513. **Puccinia cnici oleracei** Persoon, Sydow 04 [48], Syn: Pucc. Andersonii Berk. & Br., Syd. 04 [48], Pucc. subtecta Rostrup, Thümen 77 [171].

Leptopuccinia with large, orbiculate sori on the lower surface of the leaves, June—October.

Cirsium heterophyllum. J. Ø. Teglgaard near Viborg!, Hald Egekrat ($^{9}/_{8}$ 81 again $^{19}/_{8}$ 03! Exs. Syd. no 1863), Hatting (Jeppesen), Bygholm, Letbæk; S. Lille Hareskov (Exc. $^{19}/_{10}$ 84), Jonstrup Vang ($^{20}/_{7}$ 73 H. M. & $^{27}/_{10}$ 78 Exs. Thüm. Myc. no 438). *Cirsium heterophyllum* × *oleraceum.* J. Jonstrup Vang. *Cirsium oleraceum.* J. Volstrup!, Vilhelmsborg near Vejle!; F. Brudager, Klingstrup, Vejstrup Aaskov (! Exs. Syd. no 2313); S. Ørsløv (P. N.).

1514. **Puccinia divergens** Bubak 1907.

Brachypuccinia, never sought in vain.

Carlina vulgaris, June—October, noticed from J., F., S., L., Møen etc.

1515. **Puccinia centaureae** Martius, Sydow 04 [39], Lit: Jacky 07.

Brachypuccinia, very common through all the season.

On leaves and stems of *Centaurea decipiens, jacea, nigra, pseudophrygia* and *scabiosa.*

1516. **Puccinia verrucae** Thümen, Sydow 04 [42].

Leptopuccinia.

Found only once on *Centaurea scabiosa* on Møens Klint $^{7}/_{8}$ 79.

1517. **Puccinia echinopis** de Candolle, Sydow 04 [75].

Brachypuccinia.

Echinops schaerocephalus. S. Holsteinborg ($^{29}/_{6}$ 75 P. N., $^{1}/_{8}$ 77 Jeppesen).

1518. **Puccinia absinthii** de Candolle, Sydow 04 [11].

Brachypuccinia, st. II May—August, st. III on leaves and stems Aug.—Nov.

Artemisia absinthium & *vulgaris,* common. *Artemisia maritima.* F. Fyenshoved; S. Fredriksværk Havn, Flaskekroen, Basnæs & Snedinge (P. N.); L. Bredefjord (Exc. $^{4}/_{8}$ 84).

1519. **Puccinia artemisiicola** Sydow 04 [14].

Leptopuccinia.

On the leaves and stems of *Artemisia campestris,* only found L. Bredefjord ($^{4}/_{8}$ 84).

1520. **Puccinia balsamitae** (Strauss) Rbh., Sydow 04 [162].
Brachypuccinia.
Tanacetum balsamita. S. Taarbæk (A. B.), Ørsløv ($^{1}/_{8}$ 76 P. N.).

1521. **Puccinia tanaceti** de Candolle, Sydow 04 [161], Renfanerust (R 04 a [48]).
Brachypuccinia. On the leaves and stems of Tanacetum.
It is probable that a form on Matricaria chamomilla which I have found rather scantily, F. Ringe ($^{2}/_{9}$ 97 see R 99 a [258]) should be classified under this species. Rostrup has sometimes found two-septated teleutospores.
Tanacetum vulgare. J. Sd. Tranders (J. P. Johansen); Anholt (1870 J. P. J.); F. Klingstrup, Brudager, Bjørnemose, Magaard, Svenborg; Thurø; S. København, Køge!, Skelskør (Jeppesen), Masnedsund (Jeppesen); B. Allinge (Neger 06).

1522. **Puccinia millefolii** Fuckel, Sydow 04 [2].
Leptopuccinia, on the leaves and young shoots, August—October.
Achillea millefolium. J. Stensballegaard Skov! ($^{31}/_{8}$ 10 Exs. Syd. no 2377); S. Lyngby!.

1523. **Puccinia ptarmicae** Karsten, Sydow 04 [3].
Leptopuccinia.
Achillea ptarmica. J. Bangsbo (Exc. $^{21}/_{7}$ 02), Viborg (Gad); S. Fredensborg, Charlottenlund ($^{8}/_{8}$ 82).

1524. **Puccinia helianthi** Schweinitz, Sydow 04 [92], Solsikkerust (R 02 a [243] & 04 a [48]).
Aut-eu-puccinia. Is stated to be very common in Russia where it causes rather much damage by attacking the young plants; in Denmark I have only seen st. III Septbr.—October.
Helianthus annuus. F. Akkerup!, Aabymark ($^{16}/_{9}$ 82); S. Landbohøjskolens Mark.

1525. **Puccinia chrysanthemi** Roze, Sydow 04 [46], Krysanthemumrust (R 02 a [263] c. icon. & 04 a [48]), Lit: R 01 i & 06 p, Jacky 07 c. icon.
This pest was very destructive to the cultivated Chrysanthemum in greenhouses, when it first appeared; now it sems to be rarer probably because the gardeners have learned to cultivate species of greater resisting power, and also probably because the fungus has changed its features. It was first found in Europe in 1895 in England and France (see Massee in The Gardeners Chronicle 1898 $^{8}/_{10}$), and was first noticed in Denmark Jan. 14. 1898 in hothouses on slips that had just been imported from England (see Bruun 98 and R 99 a [258] "Pucc. Tanaceti"); in 1899 it was very common causing much damage particularly to the sorts of "Lincoln", "Niveum", "Etoile de Lyon" and

"Marie Therese Bergmann"; it may still be seen in hothouses on certain sorts of Chrysanthemum.

Kusano states (08) that the European form repeats the uredo-generation throughout the year, and the uredospores can hibernate on the young shoots of the host kept in the greenhouse; the European form has generally two-celled uredospores and many mesospores, such cases also occur in its native country (Japan), though not constantly.

1526. **Puccinia virgaureae** (de C.) Lib., Sydow 04 [151], Gyldenrisrust (R 04 a [48]).

Bubak has found (08 b [156]) a number of one-celled teleutospores among the common two-celled ones, on the other hand I have found a number of three-celled ones. Bubak considers it a Leptopuccinia while Liro (08 [389]) and Winter (I [173]) considers it a Micropuccinia. July—September.

Solidago virgaurea. J. Fredrikshavn! (Exs. Syd. no 2082), Fredrikshaab Plantage (Jak. Lge), Snaptun!, Jensgaard Strand!, Munkebjerg, Trelde; Fænø; F. Hindsgavl; Møens Klint (P. N.).

1527. **Puccinia asteris** Duby, Sydow 04 [15], Astersrust (R 04 a [49]).

Leptopuccinia, August—Octob. Many ancient authors also included the species no 1513, 1516, 1519, 1522, 1523 here stated as autonomous species under this name; it must, however, be observed that there is a great mutual likeness among all these species, and that cultivating experiments proving their separation have not yet been made.

Aster tripolium. S. Flaskekroen (R 97 m [40]); Amager Fælled! ([24]/8 96).

1528. **Puccinia cichorii** (de C.) Bell., Sydow 04 [49], Cichorierust (R 82 b).

Brachypuccinia, common on the leaves and stems of Cichorium, July—Octob., noticed from the following localities:

Cichorium intubus. J. Bygholm!; F. Dalum (M. L. M.), Svenborg!; S. Ørslov (P. N.), Herlufsholm; Am.; L. Søllested, Vesterborg; Møen; B. Rønne!.

1529. **Puccinia endiviae** Passerini, Sydow 04 [49].

Brachypuccinia.

Found only once on *Cichorium endivia* in Landbohøjskolens Have, S. ([4]/11 07!, abundantly), Cichorium intubus planted close by was not affected.

1530. **Puccinia lampsanae** (Schultz) Fuckel, Sydow 04 [112], Syn: "Aecidium hieracii" Schum. no 1513, Fl. D. tab. 2215 fig. 3 (see R 85 g [155]).

Aut-eu-puccinia.

On the leaves of *Lampsana communis,* very common, st. I April—May, st. II June—August, st. III July—Sept., specimens from Denmark are distributed in Thüm. Mycot. no 729 (Aecidium lampsanae Schultz, Roskilde April 1874, C. Thomsen).

1531. **Puccinia sonchi** Robin, Sydow 04 [154], Svinemælkrust (R 04 a [48]), Lit: F. & W. 08 [264].

Brachypuccinia.

On leaves and stems of *Sonchus arvensis* & *paluster*, very common July—October, specimens from Denmark are distributed in Thüm. Mycot. no 238 (F. Bjørnemose 1874); noticed from all parts of the country.

1532. **Puccinia hieracii** Martius, Sydow 04 [95].

Brachypuccinia, on leaves and stems of many species of Hieracium, common, May—October.

Hieracium auricula, boreale (Exc. 3/8 84), *caesium, cymosum, gothicum, murorum, pilosella, tridentatum, umbellatum, vulgatum.*

1533. **Puccinia crepidis** Schroeter, Sydow 04 [64].

Aut-eu-puccinia, the aecidial mycelium penetrates the host-plant, st. I May—August, st. II June—Sept., st. III Aug.—Nov.

Crepis nicaeensis (hosp. nov.). J. between Rønde and Rodskov (Exc. 29/6 03) abundantly. *Crepis virens* & *tectorum* common.

1534. **Puccinia intybi** (Juel) Sydow, Syd. 04 [68].

Aut-eu-puccinia.

On *Crepis praemorsa* only found once: S. Jonstrup.

1535. **Puccinia praecox** Bubak 1898, Sydow 04 [67], Syn: Aecidium Rostrupii Thümen 77 b & 78 [90].

Aut-eu-puccinia, st. I May—June, st. II June—August, st. III July—October. The aecidia were first abundantly collected by Rostrup May 25. 1876 in Vejstrup Aaskov; Rostrup sent specimens of it to Thümen who published and described them under the name of Aecidium Rostrupii. This was very rash and highly against the desire of Rostrup, for shortly after he found uredo and later on st. III in the same locality which sufficiently proved it to be a Aut-eu-puccinia.

Crepis biennis. F. Stokkebæk, Ø. Aaby, Vejstrup Aaskov (R 79 [23]), Tiselholt, Svenborg; S. Ørsløv (P. N. 1/8 75); L. Christianssæde; Falst. Virket (Exc. 24/6 11).

1536. **Puccinia major** Dietel, Sydow 04 [66].

Aut-eu-puccinia, st. I June, II & III July—Oct.

Crepis paludosa, common.

1537. **Puccinia taraxaci** (Reb.) Plowr., Sydow 04 [164].

Brachypuccinia.

On the leaves of *Taraxacum vulgare,* common.

1538. **Puccinia variabilis** Greville, Sydow 04 [163].

Aut-eu-puccinia, st. I—II—III most frequently found together.

Taraxacum vulgare. J. Løgstør!; L. Aalholm; Møen Liselund.

1539. **Puccinia prenanthis** (Pers.) Liro, Sydow 04 [106] & [862], Syn: Aecidium pren. Pers. Syn. [208], Uredo pren. Pers., Schum. no 1565, Salatrust (R 04 a [47]).

Aut-eu-puccinia, st. I April—June, st. II June—Sept., st. III July—Nov.

Lactuca muralis, common.

1540. **Puccinia leontodontis** Jacky, Sydow 04 [114], Lit: Probst (08).

Brachypuccinia, May—Nov.

Leontodon auctumnalis, common. *Leontodon hispidus*. J. Dybdal near Aalborg (J. P. Johansen); S. Basnæs (P. N.). *Thrincia hirta*. F. Raageskovgaard.

1541. **Puccinia picridis** Haszlinsky, Sydow 04 [130].

Brachypuccinia, st. II June—August, st. III July—Nov.

Picris hieracioides. J. Sødal Skov near Viborg!, Fusingø (Exc. [21]/7 04); Samsø; F. Ringe!, Aabymark, Vejstrup Aaskov, Skaarup; Thorseng Bjørnemark: L.

1542. **Puccinia scorzonerae** (Schum.) Jacky, Sydow 04 [141], Syn: Uredo scorzonerae Schum. no 1541.

Brachypuccinia, found very commonly on the leaves of *Scorzonera humilis*, June—Nov.

1543. **Puccinia tragopogonis** (Pers.) Cda., Sydow 04 [167], Syn: Aecidium tragopogi Pers. Syn. [211], Schum. no 1525, Fl. D. tab. 2216 fig. 3, Gedeskægrust (Ørsted 66 b [29], R 71 [27]).

Pucciniopsis with perennial mycelium (Liro 08 [32]), st. I in stems, leaves, involucrum, corolla and ovaries, May—Aug.; st. III follows soon thereafter; the attack sometimes causes the host to produce only tubular and regular corolls (R 95 a [204]).

Tragopogon pratensis common. *Tragopogon porrifolius*. S. Lyngby (K. H.).

1544. **Puccinia hyoseridis** (Schum.) Liro 08 [369], Syn: Uredo hyoseridis Schum. no 1574, Pucc. hypochaeridis Ouds., Sydow 04 [100], Svineøje-Brandstøv (H. 37 [912]).

Brachypuccinia, primary uredo May, secondary uredo and teleuto June—Nov., Probst (08 [295]) states, that this species is to be divided into several formae speciales.

Hypochaeris radicata common. *Hypochaeris glabra*. J. Skagen & Fano (P. N.): F. Knarreborg. *Hypochaeris maculata*. J. Mols Bjerge: S. Dragsholm (Th. Leth).

Uromyces.

1545. **Uromyces maritimae** Plowr. Syn: Aecidium glaucis Dozy & Molk., Lit: R 93 e, Lind 07 b, Klebahn 04 [328].

Heter-eu-uromyces on Glaux maritima and Scirpus maritimus. Sydow

will unite this species with all the other species of Uromyces which have their st. III on Scirpus maritimus. However, as long as the opposite is not proved, I should consider it right only to unite the species of Uromyces, having their st. I on Umbelliferae and their st. II & III on Scirpus maritimus, under the name of Uromyces scirpi, and for the present to consider the forms not having their st. I on Umbelliferae as independent species.

It is very common, and is seldom sought in vain in places where both host-plants are found on beaches. Found for the first time in this country at Magaard near Skaarup June 17. 1875. Specimens from Denmark (Christiansminde near Svenborg June 15. 1877) are distributed in Thümen's Mycotheca no 1021.

1546. **Uromyces scirpi** (Cast.) Lagerh., Syn: Uromyces lineolatus (Desm.) Schroet. Kogleaksrust (R 04 a), Lit: Sydow 10 [302], Klebahn 05 b [74], R 02 a [276].

Heter-eu-uromyces, st. I June—Aug. on Berula, Sium, Cicuta, Pastinaca, Oenanthe and Daucus, st. II—III on Scirpus maritimus. July—Sept., common.

Sium latifolium (Aecidium sii latifolii (Fiedler) Wt.), Langel. Vestergaard; Skjelskør (Lind 07 b); L. Stensgaard (R 99 a [259]). Rødby (R 92 g [71]), Aunede. *Pastinaca sativa* (Aecidium pastinacae Rostrup in Thümen. Mycotheca universalis no 2027) F. Nyborg [21/7] 18 (Thümen no 2027) L. Nakskov (R, F. K. R. & !), Rødby. *Daucus carota* (Aecidium carotinum Bubak). L. Nakskov ([27/6] 1911!)

Uromyces scirpi (Cast.) Lagerh. forma Hippuridis-scirpi Jaap.

Hippuris vulgaris (Aecidium hippuridis Kze.). S. Borreby by Skjelskør ([22/6] 07 !).

1547. **Uromyces dactylidis** Otth., Hundegræsrust (R 02 a [275], R 04 a [35], M. L. M. Juli 10), Ranunkel-Græsrust (R 93 c [71]). Lit. Sydow 10, Klebahn 05 b [323], Tranz. 06 [17].

Heter-eu-uromyces, the aecidial stage is found May—July.

On *Ranunculus bulbosus, repens, acer, polyanthemus & lanuginosus;* st. II and III on *Dactylis.* June—Nov. Widely distributed throughout the whole of Denmark (on *Ranunculus lanuginosus* J. Føns, Jak. Lge).

1548. **Uromyces poae** Rbh., Syn: Uromyces graminum (R 79 [24] & P. N. 75 b [568]), Lit. R 02 a [275], Plowright 89 [132], Juel 08 etc.

Heter-eu-uromyces on Ranunculus April—May and Poa June—Nov.

Ranunculus ficaria (Aecidium ficariae Pers. Syn. [208], Schum. no 1514, Syn: Lycoperdon epiphyllum "in dorso foliorum Ranunculi ficariae" Müller (1767 [227]), Tidlig Støvskaal H. 37 [904]). Common. *Ranunculus auricomus.* J. Tolne!; S. Roskilde (Thomsen). *Ranunculus bulbosus.* J. Skive!, Bruddal!, Hatting!;

S. Boserup, Tjustrup. *Ranunculus repens.* (Aecidium ranunculi Fl. D. 2216 fig. 1). J. Bangsbo (C. H. O.), Skive!; F. Klingstrup, Brændeskov; Thorseng Vindeby; S. Lyngby!, Herlufsholm. *Poa palustris.* L. Pederstrup, Stensgaard, Søllested. *Poa nemoralis.* J. Kolding; S. Jægerspris (Gad). *Poa trivialis* common.

P. Nielsen has produced Uromyces poae on Poa annua & trivialis after sowing of spores of Aecidies of Ranunculus repens (1877 a [33] & 75 b [568]). C. Gad has made the observation in nature that aecidiospores of Ranunculus ficaria infected Poa trivialis.

It is very common, but is scarcely of so economical an importance as the preceding one.

Under the name of Aecidium ranunculacearum de C. were formerly comprised not only the aecidial-stages of both the above species, but also aecidies of numerous other species on the leaves of Ranunculaceae; here I shall give a schematic summary of the different forms of aecidies on the Danish species of Ranunculus:

On Ranunculus acer	Uromyces dactylidis.
	Puccinia perplexans.
On Ranunculus bulbosus	Uromyces poae on Poa pratensis.
On Ranunculus bulbosus	Uromyces dactylidis.
	Uromyces poae on Poa trivialis & nemoralis.
	Uromyces festucae-ranunculi.
	Pucc. Magnusiana.
On Ranunculus ficaria	Uromyces poae on Poa nemoralis, palustris, pratensis, trivialis.
	Uromyces rumicis.
On Ranunculus lanuginosus	Uromyces dactylidis.
On Ranunculus repens	Uromyces dactylidis & poae.
On Ranunculus polyanthemus	Uromyces dactylidis.

On Ranunculus lingua is found an aecidium whose life-cycle is still unknown. June—July.

J. Skjellerup (Christensen Hygum); S. Lyngby Mose, Snedinge (P. N.), Lekkende.

1549. **Uromyces gageae** Beck, Guldstjernerust (R 04 a [36]), Lit: Sydow 10 [273].

Microuromyces on Gagea. April and May.

Is often found together with the habitually similar Ustilago ornithogali (S. & K.).

Gagea lutea. J. Asmildkloster; F. Ringe!, Langkildegaard, Skaarup [27/5] 1865, Gudbjerg, Vejstrup; S. Charlottenlund (O. R.), Dronninggaard (F. K. R.), Boserup (Thomsen), Orslov (P. N.), Oringe (Gad). *Gagea spathacea.* F. Skaarup.

1550. **Uromyces rumicis** (Schum.) Wt., Syn: Uredo rumicis Schum. no 1558, Skreppens Brandstøv (H. 37 [910]), Skræpperust (R 04 a [36]), Lit. Sydow 10 [238].

Heter-eu-uromyces, st. I on Ranunculus ficaria May—June and st. II—III on Rumex spp.

St. I on *Ranunculus ficaria* (Aecidium ficariae Pers. part.) in April—June. st. II—III on *Rumex crispus, domesticus, hydrolapathum, aquaticus* × *hydrolapathum, obtusifolius, obtusifolius* × *domesticus, patientia, sanguineus.*

1551. **Uromyces polygoni** (Pers.) Fuckel, Syn: Uredo centumnodii Schum. no 1557, Uromyces avicullariae Schroeter, Pileurtens Brandstøv (H. 37 [910]).

Aut-eu-uromyces, st. I May—June, st. II & III June—Octob.

Polygonum aviculare. J. Strandby, Skive!, Sahl (Leth), Randers!, Skibelund; F. Skaarup; Lang. Rudkøbing; S. many places; L. Skjeltofte, Banholm; Falst. Nykøbing; B. Neksø. *Polygonum maritimum.* S. Botanisk Have Oct. 82 (Raunkiær). *Rumex acetosella.* J. Velling, Thorsager; F. Klingstrup; S. Ørholm (M. L. M.), Gammelmose (R 1906 cc [356]), Ørsløv (P. N.); L. Skælstofte, Bredfjord.

1552. **Uromyces ficariae** (Schum.) Lév., Syn: Uredo ficariae Schum. no 1564, Kaulings Brandstøv (H. 37 [911]), Vorterodrust (R. 04 a [37]).

Microuromyces. April—June.

Ranunculus ficaria. Common.

1553. **Uromyces scleranthi** Rostrup 97 m [39], Lit: Sydow 10 [217]. Syll. XIV [275]. See tab. V fig. 68.

Sori sparsi minuti orbiculares v. oblongi, dilute fusci, diu epidermide tecti; uredosporae flavo-fuscae, globosae 15—22 μ cr. vel oblongae 24—25 μ l. 18—20 μ cr., episporio spinuloso; teleutosporae rarae, uredospores intermixtae, pyriformes v. oblique ellipsoideae, rufo-fuscae, apice papilla lata incrassatae, long 23—24 μ crassit. 19—20 μ, pedicello hyalino deciduo. In caulibus, foliis calycibusque Scleranthi perennis.

Has hitherto been found in Denmark only.

July—Sept. J. Sæby 1/8 1896, Viborg!, (Exs. Sydow. Ured. no 2054), Skanderborg (! Exs. Vgr.).

1554. **Uromyces sparsus** (K. & S.) Lév., Hindeknærust (R 04 a [36]), Lit: Sydow 10 [221].

Aut-eu-uromyces, st. I is very insignificant, not yet found in Denmark but near Oldesloe in Holstein (Jaap. Exs. no 137 b), st. II—III July—Octob.

Spergularia media. S. Flaskekroen, Ørsløv (12/8 1880 P. N.). *Spergularia salina.* J. Hals (O. Paulsen); S. Flaskekroen, Stubberup (P. N.); Amager (17/9 1911 exc.).

1555. **Uromyces cristatus** Schroeter et Niessl, Lit. Sydow 10 [222].

Brachy-uromyces, st. II June—July, st. III August.

Viscaria viscosa. J. Flade!, Tolne!, Dommerby (! Exs. Sydow), Bækkelund $^{8}/_{8}$ 1889. S. Arresødal.

1556. **Uromyces verruculosus** Schroeter, Sydow 10 [215], Syn: Uromyces Schroeteri de Toni Syll. VII [551], Pragtstjernerust (R 04 a [47]).

Is very common on Melandrium album & rubrum, but always only st. II; it seems to hibernate in the host-plant, at any rate P. Nielsen has several times planted diseased Melandrium-plants in his garden, and the following year they were just as much infected by rust. Rostrup has also often found this rust, and it has in several places (f. inst. R. 04 a [47]) been mentioned by him under the wrong name of Puccinia lychnidearum Fuckel. It is found especially from August to October. Besides on the above two host-plants a very similar uredo is found on the three hosts stated below, but it is rather dubious if it is the very same Uromyces; on Silene Armeria Rostrup calles it Uromyces silenes (R. 99 a [258] & 02 a [273]) which is hardly correct.

Dianthus armeria. L. Maribo $^{2}/_{8}$ 1881. St. II. The spores prickly 24 × 28 μ. *Silene armeria.* S. Lyngby ($^{3}/_{9}$ 1897 K. H.). *Elisanthe noctiflora.* S. Roskilde (Thomsen).

1557. **Uromyces inaequialtus** Lasch, Syn: Uromyces silenes Fuckel, Limurtrust (R 04 a [36]), Lit. Sydow 10 [217].

Aut-eu-uromyces. St. I May—July, st. II July—August, sooner st. III.

Silene nutans. J. Fredericia (P. N.); F. Christiansminde ($^{17}/_{5}$ 75); S. Asnæs, Tisvilde, Fredriksværk; Møen, Klinten; B. Hammershus (R 06 dd [372]).

1558. **Uromyces behenis** (de C.) Unger, Smellerust (R 04 a [36]), Lit. Sydow 10 [371].

Uromycopsis with many generations of aecidia; the same mycelium, producing aecidia, will later on produce teleutospores.

Silene venosa. J. Skive!, Aalborg (Johansen) Bejtsebakken (F. K. R.); F. Skaarup ($^{22}/_{8}$ 72), Kirkeby; S. Roskilde (Thomsen), Tjustrup, Skelskør (Jeppesen), Næstved (Jeppesen), Herlufsholm (O. R.), Vordingborg (Jeppesen); Møen, Klinten; L. Saxkøbing, Ourebygaard, Fuglsang.

1559. **Uromyces dianthi** (Pers.) Niessl., Syn: Uredo dianthi Pers. Syn. [222], Uromyces caryophyllinus (Schrank) Wt., Lit: Sydow 10 [210].

It is common on cultivated Dianthus caryophyllus in hothouses near Copenhagen; I found it first in 1910 (Lind 10 k), but it has been known to practitioners for several years. The mycelium is perennial in the host-plant, which is generally planted out in the open air during the summer, and during this time the fungus does not appear; but as soon as the carnations are transplanted into the hot-houses (in September) the brown, dusty uredosori will appear all over the plants. Sorauer (98 [290]) has noticed the same near Vienna.

According to recent investigations of Fischer (10 [139]) this species belongs to a series of species having their aecidia on Euphorbia Gerardiana.

1560. **Uromyces betae** (Pers.) Lév., Syn: Uredo betae Pers. Syn [220], Runkelroerust (R 71 [37]), Bederust (R 82 b [3] & 84 h), Lit: Sydow 10 [224], P. N. 74 a [301] & 75 b [568], R 78, 91 m & 93 c [71]; K. H. 05.

Aut-eu-uromyces. St. I May—June, st. II June—Sept., st. III July—Oct.

St. I appears more rarely, is most commonly found on Beta, which is cultivated for production of seed. Rostrup (02 a [271] c. icon.) states as a supposition that the mycelium should winter in the heart (terminal bud) of the host. For this reason Rostrup also proposes (92 c) to prevent the spreading of the fungus by picking of the easily perceptible leaves, infected by aecidies, in spring. This fungus was first found in this country at Skaarup [16/10] 1869. As early as in 1874 it was very common and did perceptible harm; later on it has often been looked for in vain (R. 78.).

Beta maritima. S. Saltbæk Vig (Holm), Refsnæs (Exc. [17/6] 00), Lyngby (K. H. R. 94 f [41]). *Beta vulgaris* & *hortensis* common.

1561. **Uromyces geranii** (de C.) Otth., Syd. 10 [190], Storkenæbrust (R 04 a [37]).

Aut-eu-uromyces. St. I June, st. II July—Sept., st. III August—Oct.

Geranium palustre. S. Jægersborg, Lellinge (R 91 i & 92 g [71]), Lekkende, Vintersbølle (Jeppesen); L. Knuthenborg [2/8] 1881; Falst. Hanenov. *Geranium pratense.* J. Randers!; F. Akkerup!, Skaarup (R 92 g [71], Sydow. Uredineen no 2152). *Geranium silvaticum.* J. Hald Langskov!, Hinnerup, Laasby!; B. Rø, Almindingen (R 92 g [71]).

1562. **Uromyces Kabatianus** Bubak, Sydow 10 [194].

Rostrup reports (1892 g [71]) that he has found Uromyces geranii de C. in great numbers on Geranium pyrenaicum near Frederiksværk 1890. "In places where almost every specimen of this plant was attacked by the rust other Geranii which are not else inhabited by this fungus were infected by it. In such places I found the said Uromyces geranii on Geranium pusillum and on Geranium molle & dissectum as well."

Later on this Uromyces on Geranium pyrenaicum has been differentiated from the common Uromyces geranii by Bubak (Vgr. 1902 [176]) and called Uromyces Kabatianus.

Nowhere in literature do I find, however, definite statements that either Urom. geranii or Urom. Kabatianus has been found on those three host-plants. In the defile passing Fuglevad mill at Lyngby I have found Geranium pyrenaicum severely attacked by Uromyces Kabatianus, and on the specimens of Geranium columbinum, dissec-

tum & molle, growing on the same slope, was also found Uromyces Kabatianus, but in no other place even in the immediate neighbourhood did I ever found them to be infected.

It has hitherto been stated that Uromyces Kabatianus belongs solely to Geranium pyrenaicum, but Rostrups observations as well as my own made me attempt to see if, by cultivation, other host-plants might not be found. For this purpose I obtained a number of various seeds of Geranium which I sowed in flower-pots. The Geranium, produced by these seeds, I infected with Uredo-spores of Uromyces Kabatianus on Geranium pyrenaicum. In 1908 I succeeded in infecting Geranium pusillum & molle, in 1909 Geranium rotundifolium, viscidulum & dissectum, and in 1910 Geranium rotundifolium.

The experiments were made in flower-pots placed in the windows in closed compartments where there was no fear of infection from outside, and the infection was also in each case so complete that it was impossible for it to be attributed to chance. In each case a period of 10 days passed between the sowing of the spores and the appearance of the new groups of uredo on the leaves. Accordingly the period of incubation of Uredo-spores is ten days. The flower-pots were covered by a glass-bell the first days after the sowing of the spores. Rostrup considered Urom. Kabatianus a biological form of Urom. geranii (R 96 o [130]).

Geranium columbinum. S. Lyngby!. *Geranium dissectum.* S. Fredriksværk, Lyngby!. *Geranium molle.* S. Fredriksværk, Lyngby!. *Geranium pusillum.* S. Fredriksværk, Lyngby!. *Geranium pyrenaicum.* S. Fredriksværk, Søllerød (June 1866 A. S. Ørsted), Dronninggaard, Lyngby.

1563. **Uromyces alchimillae** (Pers.) Lév., Syn: Uredo alchimillae Pers. Syn. [215], Schum. no 1534, Fl. D. tab. 1436, Løvefod Brandstøv (H. 37 [907]), Løvefodrust (R. 04 a [37]), Lit: Sydow 10 [196], Klebahn 05 b [78], Liro 08 [31].

Brachy-uromyces, the mycelium winters in the underground parts of the plant and attacks all the leaves in the spring (April—June). The primary uredo-spores produce secondary groups of uredo (June —Juny), and later teleuto-spores.

Alchimilla alpestris. S. Fredriksborg (A. Lange), Lystrup Hegn!, Bidstrup Hegn!, Jægersborg!, Jyderup!, Ørslov (P. N.). *Alchimilla filicaulis.* J. Krabbesholm Skov!; S. Valensbæk Mose (C. H. O.). *Alchimilla pastoralis.* B. Gudhjem!. *Alchimilla pratensis.* S. Botanisk Have!.

1564. **Uromyces anthyllidis** (Grev.) Schroeter, Sydow 10 [64], Rundbælgrust (R 93 c [71], 02 a [276], 04 a [37]).

Hemi-uromyces. St. II June—Sept., st. III July—Octob.

Anthyllis vulneraria, common.

1565. **Uromyces onobrychidis** (Fuck.) Thümen, Syd. 10 [118]. Hemi-uromyces.

Onobrychis sativa. S. Botanisk Have, Landbohøjskolens Have.

1566. **Uromyces fabae** (Pers.) de By., Syd. 10 [103], Syn. Uredo viciae fabae Pers. Syn. [221], Schum. no 1561. Hestebønnens Brandstøv (H. 37 [910]), Vikkerust (R. 93 c [70], 02 a [273], 04 a [37]).

Aut-eu-uromyces, st. I (occur quite sparsely) June—July, st. II July—Sep., st. III July—Octob.

Lathyrus pratensis. J. Sevel!, Randers!; F. Vejstrup Aaskov, Skaarup; S. Rudersdal, Lyngby. *Lathyrus tuberosus.* S. København (III-spores 20—25 μ × 15—20 μ). *Pisum sativum,* very common. *Vicia angustifolia.* J. Randers!; F. Svendborg. *Vicia cracca.* J. Gaardbogaard (O. R.), Flade!, Randers; F. Skaarup; S. København (E. W.), Flaskekroen; L. Lindholm. *Vicia faba,* common. *Vicia sativa.* J. Randers!; F. Klingstrup, Skaarup; S. Ørsløv (P. N.). *Vicia sepium.* J. Bjørnager Skov; F. Fænø, Svenborg; S. Boserup, Herlufsholm; L. Aalholm; Falst. Bangsbo.

1567. **Uromyces orobi** (Pers.) Lév., Sydow 10 [106], Syn: Aecidium orobi tuberosi Pers. Syn. [210], Uredo orobi Schum. no 1562. Glatbællens Brandstøv (H. 37 [910]).

Aut-eu-uromyces. Some authors (f. inst. Sydow) consider this species to be different from the preceeding one, other authors (f. inst. Bubak 08 b [21]) consider them to be two biological forms of a single species.

Lathyrus montanus (Orobus tuberosus). J. Eskjær, Hobro, Kjeldgaard!, Viborg, Himmelbjerget, Varde (J. Christensen), Horsens; Fænø; S. Tisvilde, Fredriksværk, Jonstrup Vang, Ledreborg (Thomsen); B. Paradisbakkerne (R 06 dd [373]). *Orobus niger.* F. Bøgebjerg, Skaarup; S. Vintersbølle (Jeppesen); B. Almindingen. *Orobus vernus.* S. Alindelille Skov; Møen Klinteskoven.

1568. **Uromyces appendiculatus** (Pers.) Link, Syn: Uromyces phaceoli (Pers.) Wt., Bønnerust (R 02 a [273], 04 a [37]), Lit: Sydow 10 [120], Ørsted 63 c c. icon.

Aut-eu-uromyces, st. I parcimoniously, June. St. II & III common on leaves of all different sorts of Phaceolus, Aug.—Sept.

Phaceolus vulgaris. J. Greisdalen; F. Ringe!, Skaarup; S. Høve (P. N.), Roskilde, København, Førslevgaard!; L. Stensgaard, Nakskov!; Falst. Stubbekøbing, Næsgaard (! Exs. Sydow).

1569. **Uromyces pisi** (Pers.) de By., Syn: Aecidium euphorbiae Pers. Syn. [211], Ærterust (R 02 a [274] c. icon.), Lit: Sydow 10.

Heter-eu-uromyces with its aecidial stage on Euphorbia cyparissias, esula and virgata, st. II & III on Lathyrus pratensis, sativus, silvestris and Pisum sativum.

The aecidiemycelium hibernates in Euphorbia penetrating the whole

plant and transforming it ("Euphorbia degener"). In May 1880 such diseased plants were sent to P. Nielsen from professor P. Magnus in Berlin and he infected Pisum arvense with them. By cultural experiments Rostrup has also confirmed the relation of the Aecidies on Euphorbia cyparissias to the Uromyces pisi (R 84 a [11]). Rostrup made efforts to have the destruction of Euphorbia cyparissias made obligatory by law, and a bill to that effect was also passed on March 27. 1903.

Euphorbia cyparissias. F. Skaarup Kirkegaard ([23]/5 1872); S. Botanisk Have (A. Lge). *Pisum sativum.* J. Sjørup; F. Klingstrup, Skaarup; Møen.

1570. **Uromyces ervi** (Wallr.) West., Lit: Sydow 10 [96].

Aut-eu-uromyces. The aecidia are able to regenerate the whole summer (Dietel 95). The uredospores are never to be found in independent groups, st. III Aug.—Septbr.

Ervum hirsutum. J. Tversted Plantage, Skive!, Randers, Stensballe (Jeppesen); F. Klingstrup; L. Reersø; B. Neksø (R 06 dd [373]).

1571. **Uromyces striatus** Schroeter, Syn: Uromyces medicaginis falcatae (de C.) Wt., Uredo fabae β. Medicag. falcat. de C., Lucernerust (R 02 a [276], M. L. M. 07), Sneglebælgrust (R 04 a [38]), Lit: Sydow 10 [115].

Heter-eu-uromyces, st. I perennial in Euphorbia cyparissias, not found in Denmark, st. II—III on Medicago and Trifolium spp.

Medicago lupulina. S. Korsør (P. N.). *Medicago sativa* not uncommon. *Trifolium arvense.* F. Vejstrup Aaskov. B. (Neger 06). *Trifolium procumbens.* F. Vejstrup Aaskov ([15]/9 78); S. Landbohøjskolens Mark.

1572. **Uromyces trifolii** (Hedw. f.) Lév., Syn: Uromyces trifolii repentis (Cast.) Liro, Uromyces apiculatus Str. partim.

Aut-eu-uromyces. St. I—II—III are often found simultaneously.

Trifolium hybridum. F. Broholm; Thorseng Bækkehave; S. Øresundshøj (R 06 d [315]), Ørsløv (P. N.); L. Søllested. *Trifolium repens.* F. Klingstrup (O. R.); S. Slagelse!.

1573. **Uromyces fallens** (Desm.) Kern 11, Syn: Uromyces trifolii (Hedw. f.) Lév. partim, Uromyces apiculatus Str. partim, Kløverrust (R 82 b [3], 02 a [272], 04 a [38]), Lit: Sydow 10 [132], R 93 c [70], Grove 1911.

Hemiuromyces. St. II July—August. St. III Sept.—Dec. Rostrup often emphasises the fact that Trifolium pratense of American origin is always more affected by this rust than clover from Danish seed.

Trifolium elegans. L. Albuefjord (August 1868). *Trifolium fragiferum.* J. Horsens!; F. Svenborg; S. Vordingborg; Amager; L. Rødby. *Trifolium medium.* J. Greisdalen. *Trifolium pratense.* Very common.

1574. **Uromyces loti** Blytt, Lit: Sydow 10 [110], Grove 1911.

Hemiuromyces. St. II July—Sept., st. III Sept.—Oct.

Lotus corniculatus. J. Bangsbo!, Sæbygaard; F. Bøgeskovgaard, Brudager; Thorseng Thoersminde; S. Flaskekroen. *Lotus tenuifolius*. S. Masnedsund (Jeppesen Sept. 1883).

1575. **Uromyces lupini** Berk. & Curt., Lit: Sydow 10 [111].

Hemi-uromyces.

Lupinus angustifolius. S. Lyngby (K. H.), Landbohøjskolens Have, etc.

1576. **Uromyces genistae-tinctoriae** (Pers.) Wt., Syn: Uredo appendiculata var. genistae tinctoriae Pers., Visserust (R 04 a [38]), Lit: Sydow 10 [90].

Hemiuromyces. St. II July—Sept. st. III Octob.

Cytisus laburnum. J. Brostrøms Have, Viborg!. *Genista anglica*. J. Undallslund, Viborg, Nipgaard!, Herning, Bordrup, Mols. *Genista pilosa*. J. Holstebro (Jeppesen), Viborg. *Genista tinctoria*. Fænø. *Sarothamnus scoparius*. J. Vejle (Jeppesen).

1577. **Uromyces primulae integrifoliae** (de C.) Niessl, Lit: Sydow 10 [45].

Uromycopsis with perennial mycelium. St. I April, st. III June.

Primula glutinosa var. *Floerkeana*. S. København (M. Lorenzen). *Primula Heerii* (= hirsuta × integrifolia). S. København (M. Lorenzen).

Both affected species of Primula had been imported from Switzerland in the preceding year.

1578. **Uromyces armeriae** (Schlecht.) Lév., Lit: Sydow 10 [40].

Aut-eu-uromyces. St. I April—May, st. II June—July, st. III June—Sept.

Armeria vulgaris. J. Fredrikshavn (M. L. M.), Haastrup!, Nørlunde (Jeppesen), Bygholm, Jensgaard Strand!; Thorseng Ørene; Thurø; S. Snedinge (P. N.), Masnedsund ([12]/[8] 77); L. Bredfjord; B. Randkleven (R 06 dd [372]), etc. *Armeria plantaginifolia*. S. Landbohøjskolens Have.

1579. **Uromyces limonii** (de C.) Lév., Hindebægerrust (R 04 a [38]), Lit: Sydow 10 [41].

Aut-eu-uromyces.

Limonium humile (= Statice bahusiensis). F. Fyenshoved; L. Billese. *Limonium vulgare* (= Statice scanica). Læsø (J. P. Jacobsen 70); J. Aalborg (O. R.), Gjøl (M. L. M.); Fanø (E. W. 94 [56]); Thorseng Vemmenæs (H. M.); Lang. Lindelse Nor (C. H. O.); S. Glænø, Skelskør (P. N. 77 c [327]), Stigsnæs (P. N.), Snedinge, Svinø!. L. Taars.

1580. **Uromyces phyteumatum** (de C.) Unger, Sydow 10 [17], Rapunselrust (R 04 a [38]).

Microuromyces with perennial mycelium, producing spermogonia and teleutosori May—July.

Phyteuma spicatum. J. Klokkedalen near Horsens ($^{26}/_{5}$ 1885 R again $^{15}/_{5}$ 1902!).

1581. **Uromyces valerianae** (Schum.) Fuckel, Sydow 10 [19], Syn: Uredo valerianae Schum. no 1569, Baldrians Brandstøv (H. 37 [911]), Baldrianrust (R 04 a [38]).

Aut-eu-uromyces. St. I May—June, st. II June—Oct., st. III August —Octob.

Valeriana dioica. J. Gedved (Jeppesen), Horsens (Jeppesen), Vejle (Jak. Lge); F. Ringe!, Stokkebæk, Skaarup; S. Alindelille, Sorø!, Skelskør (Jeppesen), Borreby (P. N.), Vordingborg; L. Borgø (Exc. $^{3}/_{8}$ 84); B. Almindingen (R 06 dd [372]). *Valeriana officinalis.* J. Lerbæk!, Bangsbo!; S. Slangerup, Hylleholt; L. Stensgaard. *Valeriana sambucifolia* very common.

Phragmidium.

Lit: see Dietel 05 & Vleugel 08 a. All known species of Phragmidium are autoecious.

1582. **Phragmidium obtusum** (Strauss) Wt., Syn: Phr. tormentillae Fuckel.

Euphragmidium, st. I April—May, st. II June—August, st. III July —Octob.

Potentilla silvestris. J. S. Omme!, Vejle (Jeppesen); Fænø; F. Skaarup ($^{3}/_{10}$ 77); S. Vangede (R 06 cc [356]); L. Stokkemarke; Falst. Horreby Lyng; B. Rø, Almindingen (R 06 dd [374]). *Potentilla procumbens.* J. Trelde (Exc. $^{24}/_{7}$ 88). *Potentilla reptans.* J. V. Torup.

1583. **Phragmidium potentillae** (Pers.) Karsten, Syn: Puccinia pot. Pers. Syn. [229], Uredo pot. Schum. no 1535, Potentilrust (R 04 a [50]).

Euphragminium as no 1582, quite common.

Potentilla argentea. J. Kannestederne!, Tolne!, Aalborg (J. P. Johansen), Højslev!, Feldborg, Allinggaard, Stensballesund (Jeppesen); F. Aarup!, Odense, Knarreborg, Skaarup, Faaborg; Langeland; Lohals; S. Jægerspris (Gad), Tryggerød (E. W.), Basnæs (P. N.); Lindholm; L. Birket (August 62); B. Svaneke. *Potentilla arenaria.* S. Dragsholm (Th. Leth). *Potentilla minor.* J. Løgstør!, Aalborg (J. P. Johansen). *Potentilla opaca.* S. Fredriksværk, Geelskov (Didrichsen), Brede (K. H.), Boserup Skov (F. K. R.).

1584. **Phragmidium fragariastri** (de C.) Schroeter.

Euphragmidium, as no 1582.

Fraga sterilis. J. Hou!, Stensballesund ($^{2}/_{5}$ 76 Jeppesen), Kolding; F. Langeso (A. Andersen), Ryslinge (Jak. Lge), Gudbjerg, Gudme; Lang. Kjeldbjærg (C. H. O.); S. Kobenhavn, Hylleholt, Ørslov (P. N.), Vemmetofte (E. W.); L. Heiringe; B. Helligdomsklipperne.

1585. **Phragmidium rosae** (Persoon), Syn: Puccinia rosae Pers. Syn. [229], Uredo rosae centifoliae Pers. Syn [215], Uredo miniata Pers.

Syn. [216], Uredo rosae Schum. no 1549, Phragmidium mucronatum (Pers.) Schlecht., Fl. D. tab. 1369 fig. 1 & tab. 2279 fig. 2, Phragm. rosarum R 69 [28], Phragm. subcorticium (Schrank) Wt., Rosenrust (R 77 [132], 84 i, 02 a [277] c. icon., 02 f, 04 a [49]).

Euphragmidium. St. I appears late in autumn or early in spring, the mycelium is perennial under the bark of the twigs (see Er. 85 [24] c. icon. and Liro 08 [32]), the caeoma is able to regenerate as many as four times (see Bandi 03) till June, st. II June—August, st. III September—November, very common; causes rather much damage to cultivated and wild roses in the open air, but never occurs on roses grown in hothouses.

Noticed on *Rosa alba, arvensis, canina, centifolia, coriifolia, clivorum, gallica, glauca, dumetorum, lucida* (Exc. [19]/10 84), *mollis, molissima, pomifera, rubrifolia, rubiginosa, tomentosa, villosa.*

1586. **Phragmidium fusiforme** Schroeter 1869, Syn: Phrag. rosae-alpinae (de C.) Wt., Uredo pinguis β Rosae alpinae de Candolle.

Euphragmidium.

Only found once on *Rosa alpina,* S. Helsinge (! [27]/6 08).

1587. **Phragmidium rosae-pimpinellifoliae** (Rabenh.) Dietel.

Euphragmidium, st. I producing large caeoma-sori on the hips and petioles.

On wild and cultivated *Rosa pimpinellifolia,* not uncommon. St. I May—July, st. II July—August, st. III July—October, noticed from J., F., S., L., Falst.

1588. **Phragmidium tuberculatum** Müller, Syn: Uredo elevata Schum. no 1548.

Euphragmidium, st. I on the leaves May—July, st. II—III later on.

Rosa rubiginosa. J. Taarupgaard!; S. Holte!. *Rosa arvensis.* F. Skaarup (see Lagerh. 95). *Rosa canina.* J. Viborg (Gad); S. Roskilde (Thomsen).

1589. **Phragmidium perforans** (Dietr.) Liro 08 [580], Syn: Phragm. Rubi-saxatilis Liro 08 [421], Phragm. saxatile Vleugel 08 a.

Euphragmidium.

Rubus saxatilis. J. Feggeklit!, Daugbjerg!; Falst. Virket (Exc. [24]/6 11, Exs. Sydow); Møen Klinteskoven ([7]/8 79).

1590. **Phragmidium rubi** (Persoon) Wt., Syn: Puccinia rubi Pers. Syn. [229], Phragm. bulbosum (Strauss) Schlecht., Phragm. incrassatum Link, Aregma phragmidium Fries, Fl. D. tab. 2279 fig. 1, Phragm. ruborum R 69 [28] partim., Glat Brombærrust (R 77 b [131]), Brombærrust (R 04 a [50]).

Euphragmidium, very common on the leaves of various species of Rubus.

Noticed on *Rubus caesius, caesius* × *radula, corylifolius, glandulosus, idaeus* × *caesius, Mortensenii, nemoralis, radula, Wahlbergii* & var. *ferox.*

1591. **Phragmidium violaceum** (Schultz) Wt., Syn: Phragm. asperum Wallr., Ru Brombærrust (R 77 b [131]).

Euphragmidium, very common, found on the leaves of many species of Rubus.

Noticed on *Rubus discolor, imbricatus, insularis* × *villicaulis* (Hellebæk C. H. O.), *plicatus, radula, thyrsoideus* & form. *laciniatus, villicaulis.*

1592. **Phragmidium rubi idaei** (Pers.) Karsten, Syn: Uredo rubi idaei Pers. Syn. [218], Puccinia rubi Schum. no 1582, Aecidium columellatum Schum. no 1528, Fl. D. tab. 2219 fig. 2, Phragmidium gracile Grév., Hindbærrust (R 77 b, 02 a [278] c. icon., 04 a [49]).

Euphragmidium, st. I on the upper side of the leaves May—June, st. II & III on the under side of the leaves later on.

Found in all parts of the country, as well on wild as on cultivated *Rubus idaeus.*

1593. **Phragmidium sanguisorbae** (de C.) Schroeter, Syn: Phragm. apiculatum Aut.

Euphragmidium, st. I April—May, st. II June—August, st. III July —Octob.

Poterium polygonum (hosp. nov.). J. Hald!. *Poterium sanguisorba.* J. Dybdal near Aalborg!. *Poterium dictyocarpum.* J. Dybdal (J. P. Johansen), Buderupholm; F. Skaarup ([19]/9 62); S. Rørvig, St. Jørgensbjerg (Thomsen); Møen Stensgaard (R 81 a [90]).

Triphragmium.

1594. **Triphragmium filipendulae** (Lasch) Passer.

Brachy-triphragmium, primary uredo in June, secondary uredo July —September, teleuto August—Nov.

Filipendula hexapetala. J. Feggeklit!, Hadsund; Sejrø; S. Rørvig, Tisvilde, Fredrikssund! (Exs. Sydow 2390), Brede, Herlufsholm (O. R.); B. Johns Kapel, Bobbeaadalen, Randkløve.

1595. **Triphragmium ulmariae** (Schum.) Link, Syn: Uredo ulmariae Schum. no 1533, Mjødurtrust (R 04 a [49]).

Brachy-triphragmium as no 1594.

Filipendula ulmaria. J. Fredrikshavn (C. H. O.), Rindsholm (Gad); F. Holmdrup, Klingstrup, Skaarup, Vejstrup Aaskov ([11]/9 61), Tved; S. Holte (E. W.), Lyngby Mose (Raunkiær), Ledreborg (Thomsen); B. Bodilsker (Bergstedt), Almindingen (R 06 bb [373]).

Aecidium.

1596. **Aecidium circaeae** Cesati.

Circaea alpina. J. Munkebjerg (Jak. Lge); S. Oremandsgaard. *Circaea lute-*

tiana. J. Kalø, Munkebjerg (Jak. Lge); F. Holmdrup, Vejstrup ($^{11}/_{6}$ 62), Skaarup; Lang. Lohals ($^{30}/_{7}$ 85 again 1906 M. L. M.); S. Bagsværd Sø (abundantly L. K. R.), Fredriksdal!, Boserup (Thomsen), Basnæs (P. N.); Falst. Næsgaard Skov (Exc. $^{25}/_{6}$ 11), Korselitse.

1597. **Aecidium stenhammariae** Rostrup 92 g [70].
Pneumaria maritima. J. Bulbjerg and Torup Strand (August 1890).

Peridermium.

1598. **Peridermium conorum piceae** (Reess), Syn: Aecidium con. p. Reess non Peck., Peridermium piceae Thüm. Koglerust (R 02 a).
Is probably corresponding to Chrysomyxa pirolae (see R 81 c [126], 02 a [318] & [325] c. icon.), April—October.
In the cones of *Picea excelsa*, J. Dallerup Skov near Boller; F. Glorup, Brændeskov (Oct. 77 Exs. Thüm. Myc. no 1119), Klingstrup ($^{6}/_{4}$ 71); S. Fredriksværk; B. between Hammershus and Allinge and in Sandflugtskoven ($^{20}/_{8}$ 06 Neger, Exs. Sydow no 2094 see Neger 06 [367]).

Uredo.

1599. **Uredo airae** Lagerheim.
Aira caespitosa & *flexuosa*, very common, July—November.

1600. **Uredo glyceriae** ad interim. See tab. V fig. 69.
Soris uredosporiferis epiphyllis, sparsis, elliptico-rotundatis vel elongatis, flavis. Uredosporis ovoideis membrano hyalino, plasmate flavo farctis 21—30 μ × 18—22 μ. Paraphysis membrano crasso, capite sphaeroideo, 19—20 μ diam., instructis, infra caput constrictis, long. (capite excluso) 42—55 μ, crassit 5—8 μ.
This uredo occurs rather scantily on the leaves of Glyceria. St. III is never found on the same leaves. It is probably a form of Puccinia coronata.
Glyceria maritima. J. Aalborg!; F. Christiansminde Skov ($^{11}/_{7}$ 75).

Auriculariales.

Auriculariaceae.

Herpobasidium (see Lind 08 a).

1601. **Herpobasidium filicinum** (Rostrup) Lind 08 c. icon., Syn: Gloeosporium fil. R in Thüm. Myc. no 2083 (1881), Exobasidium Brévièri Boud., Syll. XVI [198], Lit: R 85 a, 89 i [236], 02 a [583].

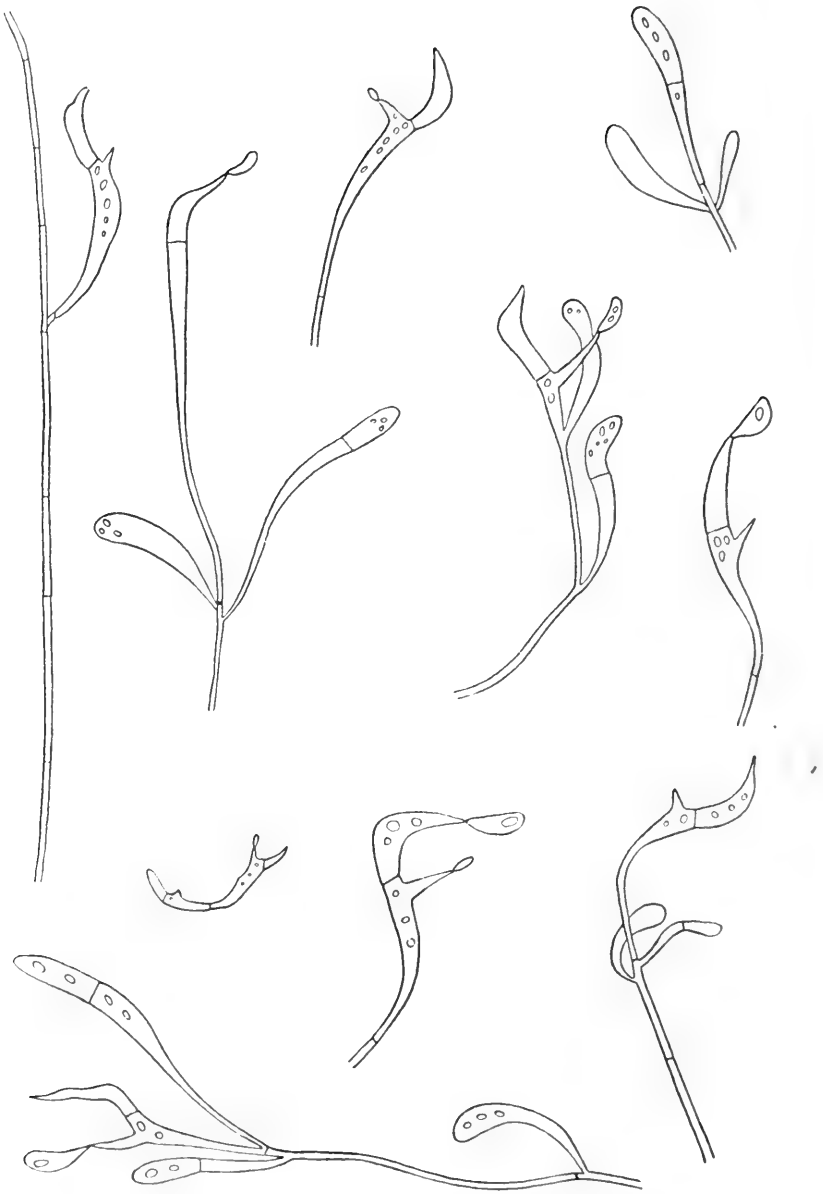


Fig. 28. Herpobasidium filicinum (Rostrup) Lind.
Mycelium with basidia and spores, from Lind 08.

Perennial in living fronds of Aspidium. *Aspidium filix mas*. Very common. *Aspidium dryopteris*. Common.

1602. **Herpobasidium struthiopteridis** (Rostrup)!, Syn: Gloeosporium strut. R 89 i [236], 90 l [578], 02 a [583]. See tab. VI figg. 72 & 73.

Perennial in living fronds of Struthiopteris. I have (08 a [10]) wrongly united this species with Uredinopsis struthiopteridis; it is, however, a real Herpobasidium.

Its attacks will cause characteristic deformations of the host-plant, which makes me consider it an independent species of the genus Herpobasidium. Inside the tissue of the host-plant the peculiar rolls of Mycelium are found which are so characteristic of Herpobasidium. It has been found for 23 years on the same plants, but never elsewhere; it appears in May and is very inconspicuous later in the year.

Struthiopteris germanica. S. Østerbro ([15]/5 1888 F. Børgesen again 1911).

Helicobasidium.

1603. **Helicobasidium fimetarium** (Fries) Boud., Syll. IX [245], Syn: Tremella fimetaria Schum. no 2148, Fries S. M. II [235] (see Boudier 1887 [330]).

S. "In fimo vaccino. Juli". (Schum.).

Tulasnella.

1604. **Tulasnella lilacina** Schroeter, Syn: Corticium lil. Sacc., Syll. VI [625].

Under the loose bark of various trees. Dec.—May. *Picea excelsa*. J. Viborg Nr. Sø ([2]/5 06!). *Salix caprea*. J. Krabbesholm Skov!. *Betula alba*. S. Fredriksdal!

Auricularia.

1605. **Auricularia auriculae Judae** (Fries), Syn: Exidia aur. J. Fries S. M. II [221], Hirneola aur. J. Berk, Syll. VI [766], Fungus sambucinus sive auriculae Judae (Kylling 1688 [48]), Hylde-Øre, Judae Øre (Paulli 1648 [129]), Judas Øret (Müller 1763 [29], R 69 [59]).

Its mycelium lives inside old elder-bushes and the sporophores will appear on the same trees every spring (February—June). Simon Paulli (1648 [129]) calls it common, old elder-bushes may possibly have been found in greater number at that time, at any rate, it is now very rare. Formerly it was commonly used, macerated in Aqua rosae, for diseases of the eyes (see Schumacher 26 [688], R 69 [59] & 75 [19]), and it is still sold by the druggists.

Sambucus nigra. J. Palsgaard (Feddersen); F. Hofmansgave (Hesselbo), Gudme, Ø. Aaby (Feddersen); Lang. Tranekjær.

Pilacre.

1606. **Pilacre faginea** (Fries) B. & Br., Syll. IV [580], Syn: Onygena

faginea Fries S. M. III [209], Cribraria onygena Schum. no 1499, Fl. D. tab. 1309 fig. 2 (see R 85 g [157]), Onygena decorticata Pers.

On trunks of *Fagus silvatica*. Sept.—April. F. Skaarup; S. Dyrehaven (Schum., V. A. P. & R 90 n), Jyderup!. *Alnus glutinosa*. S. Dyrehaven.

1607. **Pilacre Petersii** Berk. & C., Syll. IV [580].

On trunks of *Fagus silvatica*. S. Dyrehaven ([18]/10 96 L. K. R.).

Stilbum.

Concerning its systematical place see Juel, Bih. til Kg. Sv. Vet. Ak-Handlingar. XXIV, Afd. III, no 9.

1608. **Stilbum vulgare** Fries S. M. III [305], Syll. IV [567].

On wood of *Picea excelsa*. S. Geelskov (O. R. [9]/12 88).

Tremellaceae.

Sebacina.

1609. **Sebacina caesia** (Fries) Tul., Syn: Thelephora caesia Persoon, Fries S. M. I [449], Syll. VI [540].

Covering the moist soil with a grayish blue waxy crust. S. Gurre (F. & W. 09 [310] c. icon.), Dyrehaven (March 1903 O. R.).

1610. **Sebacina incrustans** (Fries) Tul., Syn: Thelephora incr. Fries S. M. I [448] & El. I [214], Thelephora sebacea Pers., Syll. VI [540], Bedækkende Øresvamp (H. 37 [816]), Lit: R 02 a [331], F. & W. 09 [311] c. icon.

On grass etc. F. Vejstrup, Skaarup ([8]/9 77), Vængemose, Nr. Alslev; S. Hellebæk, Charlottenlund (Rützou), Slagelse.

Exidia.

1611. **Exidia pithya** Fries S. M. II [226], Syll. VI [774], Lit: R 02 a [331].

Very common on bark of *Pinus* & *Picea*, May—June.

1612. **Exidia recisa** Fries S. M. II [223], Syll. VI [772], Syn: ? Bulgaria pellucens Fries S. M. II [167], Fl. D. tab. 2031 fig. 2, Schum. no 2042, Exidia gelatinosa (Bull.) Schroeter, Afstumpet Spiresvamp (H. 37 [847]), Rav-Øresvamp (R 69 [59]), Ravsvampen (R 80 a [194]).

On dead or dying branches, in winter. Common, especially on *Salix caprea*.

1613. **Exidia plicata** Fries Hym. [694], Syn: Exidia glandulosa Fries subsp. plic. Klotsch, Syll. VI [774].

Alnus incana. J. Viborg ([20]/4 06!).

1614. **Exidia albida** (Fries) Bref., Syll. VI [775], Syn: Tremella albida Hudson, Fries S. M. II [215], Hvid Bævresvamp (R 69 [60]), Lit: R 66 [218].

Common in winter on fallen branches of *Fagus silvatica, Crataegus monogyna, Fraxinus excelsior* etc.

1615. **Exidia glandulosa** Fries S. M. II [224], Syll. VI [773], Syn: Tremella atra Fl. D. tab. 884 & 885 fig. 2, Trem. glandulosa Bull., atrovirens, umbrina & glauca Schum. no 2135—2138, Kjertlet Spiresvamp (H. 37 [847]), Kirtlet Øresvamp (R 69 [59]), Lit: R 80 a [187] & 02 a [331].

Common in winter on fallen branches of *Salix, Betula, Fagus, Quercus, Carpinus, Juglans* etc.

Ulocolla.

1616. **Ulocolla foliacea** (Fries) Bref., Syll. VI [778], Schroeter 89 [394], Syn: Tremella fol. Persoon, Fries S. M. II [212].

On wood of *Alnus* & *Quercus*. F. Klingstrup, Skaarup; S. Charlottenlund (Valb. Jørgensen), Botanisk Have (C. H. O.); B. Blykobbe.

1617. **Ulocolla saccharina** (Fries) Bref., Syll. VI [777], Syn: Exidia sacch. Fries S. M. II [225], Sukkerfarvet Spiresvamp (H. 37 [848]).

Pinus montana. S. Hornbæk Plantage (Aug. 99).

Craterocolla.

1618. **Craterocolla rubella** (Fries) Sacc., Syll. VI [778], Syn: Peziza rub. Pers. Fries S. M. II [141], Poroidea pityophila Gött., Wt. I [275] c. icon.

Alnus glutinosa. S. Fredriksdal.

1619. **Craterocolla cerasi** (Tul.) Bref., Syll. VI [778], Syn: Tremella cerasi Schum. no 2142, see Tulasne (72) who is responsible for the identification of his species and Schumacher's.

S. "Inter corticem et lignum *Pruni cerasi*. Decemb." (Schum.).

Tremella.

1620. **Tremella cinereo-viridis** Schum. no 2147.

This fungus which seems to be very rare was found again by v. Höhnel in Austria (04). The said author is, however, responsible for the statement that this species is really identical with the fungus found by Schumacher.

1621. **Tremella encephala** (Fries) Willd., Syn: Naematelia enc. Fries S. M. II [227], Syll. VI [793], Hovedløs Levresvøb (H. 37 [848]).

On bark of *Pinus silvestris*. S. Hornbæk Plantage (Brusendorff), Skodsborg!, Birkerød (Schum. no 2143); *Pinus montana*. J. Tversted (M. L. M.), Hald!.

1622. **Tremella fimbriata** Fries S. M. II [212], Syll. VI [780], Syn: Trem. undulata Hoffm.

Alnus glutinosa. S. Fortundammen (L. K. R.), Dronninggaard. *Alnus incana*. J. Nr. Mølle near Viborg!.

1623. **Tremella intumescens** Fries S. M. II [215], Syll. VI [783], R 80 a [120].

Fagus silvatica. F. Klingstrup ($^{1}/_{1}$ 79); S. Geelskov (F. K. R.), Dyrehaven (Rützou).

1624. **Tremella mesenterica** Fries S. M. II [214], Syll. VI [783], Trem. sagarum Fl. D. tab. 885 fig. 3, Schum. no 2139, Trem. subclavata Schum. no 2156, Hindeformig Bævresvamp (H. 37 [846]), Gul Bævresvamp (R 69 [60] & 02 a [332]).

Very common Dec.—April on fallen branches of *Salix, Carpinus betulus* (R 80 a [126]), *Fagus, Quercus, Ribes rubrum, Crataegus monogyna, Cytisus alpinum* etc.

1625. **Tremella viscosa** (Fries) Berkeley, Syll. VI [785], Syn: Thelephora visc. Persoon, Fries S. M. I [448] & El. I [218]; Schum. no 1988, Fl. D. tab. 1851 fig. 1, Klæbrig Øresvamp (H. 37 [816]).

On decorticated branches of *Ulmus* (Schum.). *Fagus silvatica*. J. Viborg!.

Naematelia.

1626. **Naematelia rubiformis** Fries S. M. II [228] & El. II [35], Syll. VI [794], ? Syn: Tremella encephaloides Schum. no 2144 & alutacea no 2145, Brombærformig Levresvøb.

On wood. S. Ermelunden ($^{16}/_{3}$ 05 O. R.).

1627. **Naematelia virescens** (Fries) Cda, Syll. VI [794], Wt. I [282], Syn: Tremella vir. Schum. no 2146, Dacryomyces vir. Fries S. M. II [229], Fl. D. tab. 1857 fig. 1.

S. "In trabibus subputridis" (Schum.).

Tremellodon.

1628. **Tremellodon gelatinosum** Fries Hym. [618], Syll. VI [479], Syn: Hydnum gelat. Scop., Fries S. M. I [407], Hydnum crystallinum Müller 1775, Fl. D. tab. 717, Krystal Pindhat (Viborg 1793 [266]), Levret Pigsvamp (H. 37 [812]).

On stumps of Coniferae. J. Geelskov ($^{24}/_{10}$ 85).

Dacryomycetineae.

Dacryomyces.

1629. **Dacryomyces chrysocomus** (Fries) Tul., Syll. VI [798], Wt.

I [278], Syn: Peziza chrys. Bull., Fries S. M. II [140], Peziza subplana Schum. no 2051 (see R 85 g [150]).

Rare, on wood of Coniferae, for instance on *Abies alba*. S. Dyrehaven.

1630. **Dacryomyces tortus** Fries El. II [36], Syn: Dac. deliquescens (Bull.) Duby, Syll. VI [798], Wt. I [277], R 02 a [332], Calloria deliquescens Fries S. V. [359].

Very common on wood and old cortex of coniferae in the spring.

1631. **Dacryomyces stillatus** Fries S. M. II [250], Syll. VI [798], Wt. I [278], Syn: Tremella abietina Schum. no 2149, Fl. D. tab. 1857 fig. 2, Dryppende Taaresvamp (H. 37 [848]).

On wood of Coniferae, recorded from F., S. & L.

Dacryomyces syringae Fries S. M. II [250], Syll. VI [796], Wt. I [277], Syn: Tremella syringae Schum. no 2150, Fl. D. tab. 1857 fig. 3.

A very dubious species. Schumacher has found it "in rimis trunci *Syringae vulgaris*", Dec.

Ditiola.

1632. **Ditiola radicata** Fries S. M. II [170], Syll. VI [813] & XI [149], Fl. D. tab. 2338 fig. 1, R 02 a [332], Syn: Leotia tuberculata Hornem., Fl. D. tab. 1378 fig. 2, Tubercularia pini Schum. no 183, Rodfæstet Duunsvamp (H. 37 [843]).

On old wood. J. Viborg (Gad), Risskov (P. L. 09 [38]); S. Gribskov (O. R.), Bidstrup!, Charlottenlund (O. R.). On *Polyporus*. S. Geelskov (Rützou).

Calocera.

1633. **Calocera cornea** Fries S. M. I [486], Syll. VI [734], Wt. I [280], Syn: Clavaria cornea (Batsch) Pers., Schum. no 2010, Fl. D. tab. 1305 fig. 2, Ramaria gelatinosa Holmskjold 90 pag. 81 & tab. 2, Hornagtig Køllesvamp (H. 37 [822]).

On stumps of *Fagus silvatica*. J. Nebsager (O. R.); S. Farum!, Fredriksdal, Ruderhegn (R 84 g [78]); L. Stensgaard.

1634. **Calocera furcata** Fries S. M. I [486], Syll. VI [733], Syn: Clavaria mucida Oeder (non Pers.) Fl. D. tab. 1305 fig. 1, Gaffelkløvet Køllesvamp (H. 37 [822]).

On old wood of Coniferae, Dec.

1635. **Calocera palmata** Fries, Epicr [581], Syll. VI [733], Syn: Tremella palmata Schum. no 2157.

Schumacher has found it "in ligno quercino. October".

1636. **Calocera viscosa** Fries S. M. I [486], Syll. VI [732], R 02 a [332], Clavaria viscosa Pers., Schum. no 2011, Ramaria medullaris Holmsk.

90 [79] & tab. 1, Slimet Hornsvamp (R 98 q [252] c. icon.), Klæbrig Køllesvamp (H. 37 [822]).

Very common on stumps of coniferae July—October.

Exobasidiineae.

Exobasidium.

It is very difficult to decide whether all the species of Exobasidium proposed are autonomous species or not. We are badly in want of cultivating experiments to decide whether a number of the so-called species are only biological forms. Richards alone (96) has made a few experiments to this effect in 1894.

The systematic division of the species of Exobasidium parasitical on Bicornes is rather complicated and has caused a great many misunderstandings, even in the latest systematical manuals (for instance E. & P. 00) the facts are by no means cleared up. So I shall be obliged to deal a little more thoroughly with the classification of this group of fungi.

There are three different, morphologically well separated types of Exobasidium on Bicornes in this country and in the neighbouring ones.

The first type which I shall call the circumscribed one has its receptacle on limited spots on the leaves forming irregular gall-like bodies; the basidia are crowded with four spore-bearing sterigmata; the spores are small: 5—8 μ × 1—2 μ.

The second type which I shall call the penetrating one penetrates the whole of the host-plant or single branches with its mycelium causing hypertrophical deformations on them and producing witches-brooms. The basidia bear only two sterigmata and the spores are large: 25—32 μ × 8—12 μ.

The third type occupies in many respects, an intermediate position between the above two types, and it only occurs on Arctostaphylos.

No doubt Wilhelm Siegmund was the first to notice the two types which I call the circumscribed and the penetrating one. His descriptions seem to be quite unheeded by all later mycologists so they are quoted here. He writes (79 [19]):

"Exobasidium vaccinii Woronin. An lebenden Blättern der Preiselbeere warzenförmige fleischige verdickte Auswüchse, welche unterseits wie mit Mehl überstreut und oben schön roth gefärbt sind, auch am Vaccinium uliginosum.

Exobasidium myrtilli. Die Zweige und Blätter der Heidelbeere

schwellen dicklich an, werden vollsaftig und röthlich gefärbt und sind unterseits wie mit Mehl überstreut, seltener."

Sadebeck (86) and Fr. Thomas (97) have both made the same observation separately and independent of the other mycologists; both describe the penetrating form on Vaccinium myrtillus; Sadebeck does not give it a special name, Thomas indicates the circumscribed form as "f. circumscripta" and the penetrating form as "f. ramicola", considering both to be climatic forms as he finds f. circumscripta in the lowlands and f. ramicola high up in the mountains.

Rostrup has often dealt rather thoroughly with the species of Exobasidium on Bicornes. He considered them (R 96 l, 96 o [128], 02 a, 04 a) a single species differentiated into many formae speciales. The penetrating form on Oxycoccus palustris he has, however, described as an autonomous species, viz. Exobasidium oxycocci, and in some other places he draws attention to the fact that Exobasidium from Greenland (i. e. Exobasidium vaccinii uliginosi) has much larger spores, viz: 16—18 μ × 8—9 μ, than the Danish forms.

Boudier (1894) has described the penetrating form on Vaccinium uliginosum as Exobasidium vaccinii uliginosi; later on (96) Lagerheim gave a more thorough description and delineation of the same.

As long as the necessary cultivating experiments have not been made I shall prefer to unite all the circumscribed forms in the single species: Exobas. vaccinii and to consider Exobas. arctostaphyli, Exobas. oxycocci, Exobas. myrtilli, Exobas. Karstenii and Exob. vaccinii uliginosi as autonomous species, the latter has not been found in Denmark, it is common in Greenland and Lapland on Vaccinium uliginosum, Vacc. vitis idaea and Cassiope tetragona.

1637. **Exobasidium vaccinii** (Fuckel) Woronin, Syll. VI [664], Syn: Fusidium vaccinii Fuckel 61 [251] c. icon., Exobas. ledi Karsten in Thüm. Mycot. no 1506, Syll. VI [664].

It not only attacks the leaves, but occasionally may cause quite short and thick witches'-brooms on the end of young twigs of Vaccinium vitis idaea. The form on Rhododendron — Exobasidium rhododendri Cramer, Syll. VI [664] — is surely no independent species. A. Bruun has observed that Rhododendron hirsutum which had been growing in a hot-house for many years without being attacked was one year infected, possibly from Vaccinium vitis idaea (see R 95 a [205]). Nor is the form on Azalea — called Exobasidium azaleae Peck or Exob. discoideum Ellis & var. Horvathianum Thümen — an autonomous species (see Naumann 1910).

Common. July—September on *Vaccinium vitis idaea, Vaccinium uliginosum Oxycoccus palustris. Rhododendron hirsutum.* S. Hellebæk (Børgesen), Landbo-

højskolens Have (A. Bruun June 93). *Azalea cult.* B. Rønne ($^{27}/_{3}$ 1909 Joh. Sørensen).

1638. **Exobasidium arctostaphyli** Harkness 85.

It is common in this country and in the neighbouring countries as well, and it may appear in many exsiccati under the names of Exob. vaccinii or Exob. vaccinii uliginosii.

Arctostaphylos uva ursi. J. Fredrikshavn ($^{24}/_{7}$ 02!), Borris Hede (F. & W.), Utoft Plantage etc.

1639. **Exobasidium myrtilli** Siegmund 79, Syn: Exob. vaccinii (Fuckel) Woronin var: myrtilli Thümen 75.

Vaccinium myrtillus. J. Fredrikshavn!, Addit Skov, Rathlousdal!, Munkebjerg; B. Almindingen (Neger 06).

1640. **Exobasidium oxycocci** Rostrup 85 a.

The affected shoots grow flesh-coloured and thick with small, stubby leaves, and they grow perpendicularly up from the lying branches.

Oxycoccus palustris. J. Hulsig!, Assentoft!, Strellev near Varde (Raunkiær); S. Gammelmose ($^{16}/_{6}$ 84 see R 06 cc).

1641. **Exobasidium Karstenii** nom. nov., Syn: Exob. andromedae Karsten 1878 non Exob. and. Peck 1874.

Andromeda poliifolia. J. Hulsig!, Tolne!, Addit, Varde (Raunkiær); S. Søholm; Falst. Horreby Lyng.

Aureobasidium.

1642. **Aureobasidium vitis** Viala et Boyer, Syn: Exobasidium vitis Prill. & Delacr., Syll. XI [131].

Vitis vinifera in hothouses. July—October. S. Saaby near Hvalsø (1896 E. Gottschalk).

Hymenomycetineae.

Hypochnaceae.

Hypochnus.

1643. **Hypochnus bombycinus** (Fries)!, Syn: Thelephora bomb. Sommerf., Fries El. I [211], Corticium bomb. Bres., Hypochnus serus Schroeter 89 [417], Syll. VI [656], Corticium serum Fries Hym. [659], not Thelephora sera Pers. Syn. [580], Corticium oosporum Karsten, Syll. IX [233], Hypochnus granulatus Bon., Syll. VI [654].

On cortex of *Salix viminalis*. J. Viborg Nørresø!. *Alnus glutinosa*. S. Aasevang (May 91 O. R.). *Fagus silvatica*. S. Lyngby!, Dyrehaven (O. R.). *Prunus padus*. J. Skive!.

1644. **Hypochnus anthochrous** (Fries)!, Syn: Thelephora ant. Fries El. I [207], Corticium ant. Fries Hym. [661], Hypochnus roseus Schroeter 89 [417] (exclus. synon.).

On bark of *Salix caprea*. J. Randrup near Viborg. *Fagus silvatica*. S. Næsbyholm near Sorø (Danchert); L. Stensgaard. *Quercus robur*. J. Borris!.

1645. **Hypochnus coronatus** Schroeter, Syll. VI [654], Corticium cor. Höhnel & Litsch.

On cones of *Abies alba*. S. Jægersborg ($^{1}/_{11}$ 90 Raunkiær). J. Strandbjerggaardskov near Struer (P. L. 09 [38]).

1646. **Hypochnus sambuci** (Fries) Sacc., Syll. VI [656], Syn: Corticium samb. Fries Epic. [565], Thelephora sambuci Pers., Hyldens Barksvamp (Sev. P. 95 [92], R 04 a [62]).

Very common on bark of *Sambucus nigra*.

1647. **Hypochnus centrifugus** (Lév.) Tulasne, Syn: Corticium centr. Bres., Syll. XVII [174], Corticium arachnoideum Berk., Syll. VI [611], Tomentella fugax Karsten (see Höhnel 04 & 08), ? Byssus candidissima calcis instar muscos vestiens Dill., Fl. D. tab. 840 fig. 4.

Its conidial stage is called Fusarium Kühnii (Fuckel) Sacc., Syll. IV [694], Ldau IX [536], and it is further developing sclerotia, called Sclerotium lichenicola Svendsen, Syll. XVIII [691], Ldau IX [653].

Very common on old moss and bark of trees.

1648. **Hypochnus isabellinus** Fries Obs. [281], Syll. VI [657].

Fagus silvatica. S. Dyrehaven (April 91 O. R.).

1649. **Hypochnus byssoides** (Fries) Brefeld, Syn: Thelephora bys. Pers., Fries S. M. I [452], Coniophora bys. Fries, Syll. VI [652].

On *Hypnum purum*. S. Billesborg Skov (H. G. Simmons see R 95 k). On grass. J. Trærup Klitplantning ($^{28}/_{10}$ 80); S. Tokkekøb Hegn, Geelskov.

1650. **Hypochnus muscorum** Schroeter, Syll. VI [655].

On moss. S. Tokkekøb Hegn (October. Raunkiær), Ruderhegn, Geelskov, Rugtvedskov (O. R.).

1651. **Hypochnus epiphyllus** Wallr., var candidus Sacc., Syll. VI [655].

On the lower surface of the leaves of *Plantago lanceolata*. J. Skive (Oct. 04!).

1652. **Hypochnus solani** Prill. & Delacr., Syll. XI [130], Syn: Corticium vagum Berk. & Cooke, var solani Burt, Lit: Massee 08 [151], M. L. M. August 10.

No doubt it is very common, but it may easily be missed as it is very much like dust etc.; it covers the lower part of the stems and the under-side of the leaves with a thin grey cover of mycelium. The spores are 10—12 μ × 6 μ. It seems not to hurt its host-plant, the leaves will keep their fresh green colour even if attacked by this fungus. American mycologists suppose this species to be genetically related to Rhizoctonia (see Riehm 11), a supposition which I do not consider to be sufficiently proved.

Solanum tuberosum. J. Grenaa (Sloth), Herning (Claudi Westh see R 01 a [121]), Esbjerg!; Lyngby ([21]/7 99 K. H. see R 99 c [129]). *Solanum lycopersicum.* Am. Allégaarden ([26]/6 05 Suhr see R 05 s).

1653. **Hypochnus basicola** Rostrup 05 o.

Tenuissimus, arachnoideus vel mucedineus, late effusus, junior griseo-pallidus, denique flavido-rufescens, hyphis laxissimis, hinc inde ellipsoideo-inflatis, cruciato-ramosis, anastomosantibus; tuberculis mycelicis sparsis, villosis, subglobosis, sclerotioideis.

Its mycelium is very slender and covers the stems a little above, as also a little below, the surface of the ground. It is very difficult to tell if it is really this fungus which attacks the stems and makes them decay. Rostrup has proposed four different species which, however, come very close to each other, but he has not described all of them; they seem to be closely related to Hypochnus solani and to Hyp. cucumeris Frank.

It is impossible to procure a fixed standard for judging of the limitation of these species based only upon species from herbario.

Hypochnus basicola Rostrup is found on *Beta cult.* S. Kirkesaaby ([9]/9 03 Teglbjerg), *Raphanus sativus* S. Landbohøjskolen (May 02), *Aster cult.* J. Beder (Henriksen June 03).

Hypochnus Hellebori Rostrup 97 m [43] (nomen nudum), Syll. XIV [229].

Helleborus niger. F. Odense (Dec. 95 Ravens).

Hypochnus resedae Rostrup in herbario.

Reseda odorata. S. Østerbro (Løve [17]/8).

Hypochnus carotae Rostrup in herbario.

Daucus carota. J. Christiansholm (Aug. 88); S. Lyngby (M. L. M. Aug. 10).

Hypochnus cucumeris Frank, Syll. VI [657].

Cucumis sativus. S. Svenstrup ([16]/5 03).

1654. **Hypochnus sulphureus** (Fries) Schroet., Syn: Corticium sulph. Pers., Fries Epicr. [561], Syll. VI [612], Thelephora sulph. Fries S. M. I [452], Svovlgul Barksvamp (R 04 a [62]).

Most frequently occurs on the lower part of trunks of trees also growing on the surrounding ground. At first Rostrup (80 a [167]) considered it quite harmless, but on closer examination he realized (96 q, 97 m [43], 02 a [334]) that it must be considered as really damaging. Is is very common both on coniferous trees and on deciduous trees.

Very common, noticed on *Pinus montana* & *silvestris, Picea excelsa, Populus tremula, Fagus silvatica, Carpinus betulus, Pirus malus, Chamaenerium angustifolium.*

1655. **Hypochnus fuscellus** Saccardo, Syll. VI [662], Syn: Tomentella fusca Schroet. 89 [419] vix Pers. & Fries.

Cantharellus cibarius. S. Ruderhegn (Sept. 07 O. R.). On moss. S. Tokkekøb Hegn (Raunkiær).

1656. **Hypochnus asterophorus** Bonorden, Syll. VI [659].

On moss. S. Tokkekøb Hegn (Octob. Raunkiær).

Tomentella.

1657. **Tomentella fusca** (Fries) Schroeter, Syn: Thelephora fusca Pers., Fries S. M. I [451], El. I [201], Schum. no 1983, Hypochnus fuscus Karsten, Syll. VI [662], Lit: R 02 a [335].

Very common on stems and fallen branches, twigs, fronds etc.

1658. **Tomentella ferruginea** (Fries) Schroeter, Syn: Thelephora ferr. Persoon, Fries El. I [198], Hypochnus ferr. Fries Obs. II [180], Syll. VI [660].

On fallen twigs. F. Tangeskov ([16]/11 96); S. Ruderhegn (O. R.), Ravneholmene (O. R.), Boserup (O. R.); Møen Klinteskov.

1659. **Tomentella atramentaria** Rostrup 94 f [41], Syn: Thelephora at. Sacc., Syll. XI [117].

Atra, in sicco olivaceo-brunnea; hyphis laxe intricatis, brunneis, ramosis, articulatis, 5—7 μ diam.; sporis late ellipsoideis, 9—11 μ × 8—9 μ, verrucosis.

On the ground. S. Aasevang ([8]/5 1892).

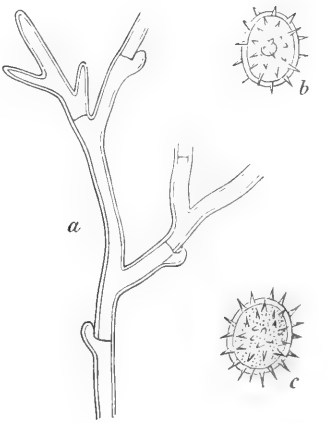


Fig. 29. Tomentella atramentaria Rostrup.
a hyphes $\frac{500}{1}$, b & c spores $\frac{100}{1}$, from R. 94 f.

Corticium.

1660. **Corticium evolvens** Fries Epicr. [557], Syll. VI [604] & XVII [170], Syn:

Thelephora ev. Fries S. M. I [441], Corticium laeve Persoon, non Fries. Udspringende Øresvamp (H. 37 [815]).

Fagus silvatica. S. Ruderhegn. *Corylus avellana*. L. Stensgaard.

1661. **Corticium giganteum** Fries Epicr. [559], Syn: Thelephora gig. Fries S. M. I [448], Syll. VI [610], Kneiffia gig. Bres., Syll. XVII [182].

On stems and stumps of Coniferae. J. Viborg!; S. Ruderhegn!, Køge.

1662. **Corticium flocculentum** Fries Epicr. [559], Syll. VI [605], Syn: Thelephora floc. Fries El. I [184].

On wood of *Populus deltoides*. F. Skaarup.

1663. **Corticium radiosum** Fries Epicr. [560], Syll. VI [611], Syn: Thelephora rad. Fries El. I [206].

On trunks of *Pinus montana*. J. Paaboel ([30/9] 04 see R 05 b [309]). *Picea excelsa*. S. Geelskov.

1664. **Corticium lacteum** Fries Epicr. [560], Syll. VI [610], Syn: Thelephora lac. Fries S. M. I [452], Mælkehvid Barksvamp (R 04 a [62]).

Polyporus radiatus. S. Skjoldnæsholm (Sept. 86). *Fagus silvatica*. Lang. Carlseje; S. København (Prytz). *Corylus avellana*. S. Hareskoven.

1665. **Corticium calceum** Fries Epicr. [562], Syll. VI [622], Syn: Thelephora calc. Pers., Fries El. I [215].

Salix caprea. J. Krabbesholm Skov!. *Corylus avellana*. S. Sjælsølund!. *Acer campestre*. S. Dyrehaven (O. R.). *Aesculus hippocastanum*. S. Søndermarken.

1666. **Corticium coeruleum** Fries Epicr. [562], Syll. VI [614], Thelephora coer. Schrader, Fries El. I [202], R 69 [57], Blaa Barksvamp (Sev. P. 95 [91]).

On dead branches and twigs of *Populus, Corylus, Quercus* etc. F. Skaarup ([15/12] 61 again Nov. 1877 Exs. Thüm. Myc. no 1207); S. Lerchenborg; L. Stensgaard, Hardenberg (Weismann).

1667. **Corticium rutilans** Fries Hym. [654], Syll. VI [626].

J. Sæbygaard Skov (July 93 O. R.).

1668. **Corticium lividum** Fries Epicr. [563], Syll. VI [623], Syn: Thelephora liv. Persoon, Fries S. M. I [447].

On stumps of *Pinus*. S. Ruderhegn ([1/12] 07!).

1669. **Corticium ochraceum** Fries Epicr. [563], Syll. VI [624], Syn: Thelephora och. Fries S. M. I [446].

Fagus silvatica. J. Krabbesholm Skov!; Lang. Carlseje: S. Dyrehaven.

1670. **Corticium hepaticum** Berk. & Cooke, Syll. VI [620].

Fraxinus excelsior. F. Glorup (Dec. Lyman); S. København (O. R.).

1671. **Corticium polygonium** Fries Epicr. [564], Syll. VI [627], Syn: Thelephora pol. Pers., Fries S. M. I [444], Mangekantet Øresvamp (H. 37 [815]), Kantet Barksvamp (R 04 a [62]).

Very common on bark of *Populus tremula* & *deltoides*.

1672. **Corticium uvidum** Fries Epicr. [565], Syll. VI [629], Syn: Thelephora viscosa f. uvida Fries El. I [218].

On the wood of branches of *Fagus silvatica*. Common.

1673. **Corticium comedens** Fries Epicr. [565], Syll. VI [628], Syn: Thelephora com. Nees, Fries S. M. I [447], Barkbrydende Øresvamp (H. 37 [816]), Ællens Barksvamp (R 04 a [61]), Lit: R 80 a [128], 83 d [245], 02 a [336] c. icon.

It is very common, but most likely it is not so noxious to the trees as Rostrup was inclined to believe; it only occurs on trees planted in moist soil or on diseased branches.

Common on *Alnus incana* & *glutinosa*, *Betula* (hosp. nov.), *Fagus silvatica*, *Quercus robur*, *Corylus avellana*.

1674. **Corticium incarnatum** Fries Epicr. [564], Syll. VI [625], Syn: Thelephora incarn. (Pers.) Fries El. I [219], Gloeocystidium incarn. Höhnel & Lit., Kødfarvet Barksvamp (R 69 [57], 04 a [62]), Rød Barksvamp (Sev. P. 95 [91] c. icon.).

Common on branches of *Pinus montana*, *Populus*, *Salix caprea*, *Alnus glutinosa*, *Corylus*, *Fagus*, *Rubus idaeus*, *Prunus padus*, *Hedera helix*, *Robinia pseudacacia*, *Cytisus laburnum*, *Sarothamnus scoparius*, *Frangula alnus*, *Cornus sanguinea*.

1675. **Corticium cinereum** Fries Epicr. [563], Syn: Thelephora cin. Pers., Fries S. M. I [453], Peniophora cin. Cooke, Syll. VI [643], Kneiffia cin. Bres., Syll. XVII [182], Thelephora pruni Schum. no 1985, Fl. D. tab. 2035 fig. 2, Graa Barksvamp (R 04 a [62]).

Common on branches of *Fagus silvatica*, *Prunus spinosa*, *Rhamnus cathartica*, *Frangula alnus*, *Fraxinus excelsior*.

1676. **Corticium laevigatum** Fries Epicr. [565], Syll. VI [628], Syn: Thelephora laev. Fries El. I [224], Peniophora laev. Höhnel & Lit., Kneiffia levigata Bres., Syll. XVII [181], Corticium juniperi Karsten, Syll. VI [621].

Juniperus communis. J. Buderupholm. October.

1677. **Corticium quercinum** Fries Epicr. [563], Syn: Thelephora querc. Fries S. M. I [442], Peniophora querc. Cooke, Syll. VI [641], Peniophora corticalis (Bull.) Cooke, Thelephora carnea Schum. no 1984, Egens Barksvamp (R 69 [57]). Lit: R 80 a [186].

October—July. Common on dying branches of *Quercus robur*, further observed on *Fagus silvatica*, *Castanea vesca*, *Frangula alnus*, *Ligustrum vulgare*.

1678. **Corticium aurantium** Sacc., Syll. VI [606], Syn: Thelephora aur. Pers., Aleurodiscus aur. Schroeter 89 [429].

Rubus idaeus. S. Tisvilde. *Rubus caesius.* L. Stensgaard.

1679. **Corticium amorphum** Fries Epicr. [559], Syll. VI [606], Syn: Thelephora am. Pers., Fries El. I [183], Aleurodiscus am. Rbh., Ædelgranens Barksvamp (R 04 a [62]).

On younger branches of *Abies alba.* J. Tværsted Plantage (F. K. R.), Viborg!; F. Glorup; S. Folehaven (la Cour), Dyrehaven; B. Almindingen (Neger 06).

Coniophora.

1680. **Coniophora arida** (Fries) Sacc., Syll. VI [648] & XVII [182], Syn: Thelephora arida Fries El. I [197], Coniophora betulae (Schum.) Karsten Hedwigia 1896 [174], Syll. XIV [224], Thelephora betulae Schum. no 1986, Coniophora lurida Karsten, Syll. VI [650], Coniophora subcinnamomea Karsten, Syll. IX [241], Hypochnus brunneus Schroeter, Syll. VI [662] (see v. Höhnel 08).

On fallen cones of *Pinus montana.* J. Varde ([28]/9 03 see R 05 b [309]), common on old wood.

1681. **Coniophora puteana** Fries Hym. [657], Syll. VI [647], Thelephora put. Schum. no 1989, Fries S. M. I [448] & El. I [194], Fl. D. tab. 2035 fig. 1, Coniophora cerebella (Pers.) Schroeter 89 [430], Brønd-Øresvamp (H. 37 [815]), Den gule Tømmersvamp (R 02 a [339]).

Very common on living and dead wood and bark, recorded on *Picea excelsa, Juniperus communis, Salix amygdalina, Crataegus oxyacantha, Hippophaës rhamnoides, Sambucus nigra.*

Hymenochaete.

1682. **Hymenochaete tabacina** (Fries) Lév., Syll. VI [590], Syn: Thelephora tab. Fries S. M. I [437], Stereum tab. Fries Epicr. [550], Tobak-Barksvamp (R 69 [57]).

Common on dead branches of *Salix, Corylus, Ribes grossularia, Spiraea salicifolia* etc.

1683. **Hymenochaete rubiginosa** (Fries) Lév., Syll. VI [589], Syn: Stereum rub. (Dickson) Fries Epicr. [550], Wt. I [344], Fl. D. tab. 1619 fig. 2, Thelephora rub. Schrader, Fries S. M. I [436], Thelephora ferruginea Bull., Schum. no 1981, Hymenochaete ferr. Bres. Atti d'. Acad. di sc. ser. III vol. III 1897, Stereum ferrugineum Fries Ep. [550], Syll. VI [565], Rødbrun Øresvamp (H. 37 [814]), Rustbrun Barksvamp (R 69 [56]), Rustbrun Lædersvamp (Sev. P. 95 [90] c. icon.).

On dead wood, especially of *Quercus robur.* J., F., S. etc.

Stereum.

1684. **Stereum crispum** (Fries) Schroeter, Syn: Thelephora crispa Pers., Fries S. M. I [437], Thelephora sanguinolenta Alb. & S., Fries S. M. I [440], Stereum sang. Fries Epic. [549], Syll. VI [564], Blodrød Øresvamp (H. 37 [815]).

Common on cortex of Coniferae.

1685. **Stereum pini** Fries Epicr. [553], Syll. VI [574], Syn: Thelephora pini Schleich., Fries S. M. I [443].

On the cortex of *Pinus montana*. J. Tvorup Klit, Viborg; S. Jyderup Plantage. *Pinus silvestris*. J. Mosskov.

1686. **Stereum hirsutum** Fries Epicr. [549], Syll. VI [563], Syn: Thelephora hirs. Pers., Fries S. M. [439], Fl. D. tab. 1738, fig. 1, Hydnum parasiticum Müller 1767 [224] & Fl. D. tab. 465 non Pers., Auricularia faginea Schum. no 1996, Thelephora papyracea Vahl Fl. D. tab. 1199 non Jungh., Laadden Øresvamp (H. 37 [814]), Gul Barksvamp (R 69 [56]), Gul Lædersvamp (Sev. P. 95 [90]), Lit: R 80 a [164] & 02 a [336].

Very common on bark and wood of many different species of trees, for instance: *Picea, Alnus, Corylus, Carpinus* (Neger 06), *Quercus* (R 06 cc), *Fagus, Populus, Cornus* etc.

1687. **Stereum lilacinum** Fries Hym. [639], Syll. VI [563], Syn: Thelephora lilac. Pers., Fl. D. tab. 1619 fig. 1, Auricularia lilac. Schum. no 1994, Thelephora purpurea f. pinea Fries S. M. I [440].

It is a dubious species, rather connected with Ster. purpureum or with Ster. crispum. I have found its spores to be 6,5—8 μ × 2,5—3,7 μ as by the latter species.

On trunks of *Pinus strobus*. S. Geelskov. *Fagus silvatica*. Geelskov!.

1688. **Stereum purpureum** Fries Epicr. [548], Syll. VI [563], Syn: Thelephora purp. Fries S. M. I [440], Auricularia purp. Schum. no 1997, Fl. D. tab. 534 fig. 4, Purpurfarvet Øresvamp (H. 37 [814]), Purpur-Barksvamp (R 69 [56]), Purpur-Lædersvamp (Sev. P. 95 [89]), Lit: R 80 a [167] & 02 a [337]).

Very common, especially from November to May, on many species of trees, for instance: *Salix, Populus, Betula, Fagus, Cytisus, Prunus, Fraxinus, Syringa* etc.

1689. **Stereum spadiceum** Fries Epicr. [549], Syll. VI [564], Syn: Stereum cristulatum Quel.

Quite common on cortex of *Quercus robur*, rare on *Populus tremula*. J. Viborg!.

1690. **Stereum rugosum** Fries Epicr. [552], Syll. VI [572], Syn: Thelephora rugosa Fries S. M. I [439], Thelephora cruenta Hornemann Fl. D. tab. 1738 fig. 2, Blodig Øresvamp (H. 37 [815]).

Very common on *Salix caprea, Alnus incana & glutinosa, Betula, Quercus, Tilia* etc.

1691. **Stereum frustulosum** Fries Epicr. [552], Syll. VI [572], Syn: Thelephora frust. Fries S. M. I [445].

On wood of *Fagus* and *Quercus* (R 02 [337]).

1692. **Stereum ochroleucum** Fries Hym. [639], Syll. VI [562], Syn: Thelephora och. Fries S. M. I [440], Fl. D. tab. 2271 fig. 3, Messingfarvet Øresvamp (H. 37 [814]).

Acer pseudoplatanus. F. Klingstrup. *Cytisus laburnum.* S. København.

Thelephora.

1693. **Thelephora cristata** Fries S. M. I [434], Syll. VI. [539], Merisma crist. Schum. no 1997, Fl. D. tab. 2272 fig. 3, Fladtoppet Øresvamp (H. 37 [814]).

On the ground in the wood. S. & L., not common.

1694. **Thelephora caryophyllea** Fries S. M. I [430], Syll. VI [528], Syn: Thel. radiata Fries Epicr. [535], Syl. VI [527], Merulius radiatus Holmskj. 99, Peziza radiata Oeder Fl. D. tab. 469 fig. 2, Clavaria flabellum Müller 1776 [256], Straalet Skaallille (Viborg 1793 [271]), Straalet Aarehat Holmskj. 99 [55] & tab. 29, Straalende Øresvamp (H. 37 [814]).

On the ground. S. Folehave Hegn (O. R.), Lille Hareskov (H. M.), Bagsværd (Holmskjold).

1695. **Thelephora palmata** Fries S. M. I [432], Syll. VI [529], Syn: Ramaria palm. Holmskj. 90 [106], tab. 10, Den palmede Grensvamp (Holmskj.), Grenet Fryndsesvamp (Sev. P. 95 [89]).

It often occurs in groups in pine-woods and can be distinguished by its disagreeable smell.

J. On clayey soil (Holmskj.); S. Grevinge Skov, Fredriksdal (Raunkiær), Bagsværd (Raunkiær), Bromme Plantage.

1696. **Thelephora clavularis** Fries Epicr. [537], Syll. VI [528], Syn: Thelephora palmata f. clavularis Fries S. M. I [433].

On the ground. S. Jonstrup Vang.

1697. **Thelephora terrestris** Fries S. M. I [431], Syll. VI [536], Syn: Thel. laciniata Pers. Fries. S. M. I [431], Syll. VI [537], Thel. mesenteriformis Vahl, Fl. D. tab. 1198, Schum. no 1980, Helvella pineti acaulis Fl. D. tab. 950, Granneskovs Foldhat (Viborg 93 [268]), Krosdannet Vabledrager (Viborg 93 [266]), Fliget Øresvamp (H. 37 [814]), Fliget Barksvamp (R 69 [56] & 79 [65] c. icon.), Fryndsesvamp (R 98 q [252] c. icon. & Sev. P. 95 [89] c. icon.).

It is very common especially on sandy soil, and it causes great damage by growing over the young plants, covering them or by growing on the stem of the older ones retaining the moisture so that the plants decay. Rostrup was the first to discover (R. 79 b [65], 83 d [243], 02 a) how dangerous the attacks of this fungus were, particularly to the young Coniferae.

Related on *Picea excelsa & alba, Pinus montana, Larix decidua, Populus, Fagus, Quercus, Arctostaphylos,* etc.

1698. **Thelephora biennis** Fries S. M. I [449], Syll. VI [537].

On living *Fagus silvatica.* S. (Prytz).

Thelephora spiculosa Fries S. M. I [434], Syll. VI [539], Syn: Thel. crustacea Schum. no 1987, Syll. VI [541], Fl. D. tab. 1851 fig. 2, Schroeter 89 [431], Wt. I [346].

A very dubious species, Schumacher has found it "in locis umbrosis prope Hafniam", Schroeter will unite it with Hypochnus fuscus and v. Höhnel will unite it with Thel. penicillata Fries.

Craterellus.

1699. **Craterellus clavatus** Fries Epicr. [533], Syll. VI [519], Syn: Cantharellus clav. Fries S. M. [322].

J. Marselisborg (P. L. 09 [37]); F. Langesø ([8]/9 97 J. Fr. Jensen); S. Fredriksværk (Wiinstedt).

1700. **Craterellus cornucopioides** Fries Epicr. [532], Syll. VI [515], Syn: Cantharellus corn. Fries S. M. I [320], Peziza corn. L. Schum. no 2064, Fl. D. tab. 384 & 1260, Horndannet Skaallille (Holmskj. 99 [16], tab. V), Trompetsvamp (R 69 [56] & Sev. P. 95 [87] c. icon.), Lit: Rosenvinge 86.

On the ground in deciduous forests in the fall, not uncommon. J. Aarhus (P. L. 09); F. Skaarup; S. Ravnholt Hegn, Ruderhegn (R 91 j), Geelskov!, Fredriksdal (Holmskjold), Sorø (Holmskjold), Hæsede, Slagelse, Næsbyholm.

1701. **Craterellus sinuosus** Fries Epicr. [523], Syll. VI [517], Syn: Cantharellus sin. Fries S. M. I [319], Syn: Craterellus crispus (Sow.) Fries, Syll. VI [517], Schroeter 89 [437], Cantharellus crisp. Fries S. M. I [323].

August—Septemb. S. Birkerød (Specimens in Schumachers herbarium from 1790 and 1795), Fredriksdal Skov (Rützou).

1702. **Craterellus lutescens** Fries Epicr. [532], Syll. VI [515], Syn. Cantharellus lut. Fries S. M. I [320].

August—Septb. S. Ravnholt Hegn, Lille Hareskov ([31]/8 90 H. M.).

Cyphella.

1703. **Cyphella alboviolascens** (Fries) Karsten, Syll. VI [669], Syn: Peziza alb. Alb. & S., Fries S. M. II [96], Fl. D. tab. 1917 fig. 2, Pez. alb.

f. nigro-caesia Fries, Fl. D. tab. 2082 fig. 2, Peziza nivea Schum. no 2128, Peziza nigro-caesia Schum. no 2127, Hvidviolet Bægersvamp (H. 37 [835]).

Very common on dead and fallen twigs from October to May, noticed on *Populus, Coronilla, Deutzia, Frangula, Sambucus* etc.

1704. **Cyphella capula** Fries Epicr. [568], Syll. VI [675], Syn: Peziza capula Holmskjold 81 [286] & 99 tab. 22, Fries S. M. II [123], Peziza cernua Schum. no 2068, Fl. D. tab. 1970 fig. 3, Skuffesvampen (Holmskjold), Kandeformig Bægersvamp (H. 37 [837]).

October—May. On dead stems and roots of *Arundo phragmites* (Holmskjold). *Urtica dioeca.* J. Bækkelund!, Aarhus (P. L. 09 [37]). *Lathyrus pratensis.* S. København. *Myosotis.* F. Skaarup. *Sambucus nigra.* S. Jægersborg (Schum.), Botanisk Have (O. R.).

1705. **Cyphella galeata** Fries Epicr. [567], Syn: Cantharellus gal. Fries. S. M. I [324], Merulius gal. Schum. no 1918, Fl. D. tab. 2027 fig. 1.

On *Hypnum delicatulum.* F. Skaarup: S. Bagsværd (Schum.) Octob.—Dec.

1706. **Cyphella muscicola** Fries S. M. II [202], Syll. VI [682], Schroeter 89 [433], Cyph. musc. β inaequilatera Fries S. M. II [202], Fl. D. tab. 2083 fig. 2, Peziza inaequilatera Schum. no 2069, Ulige Klokkesvamp (H. 37 [846]).

On moss. S. Birkerød (Schum.). October.

1707. **Cyphella muscigena** Fries S. M. I [323], Syll. VI [681], Syn: Helvella membranacea Holm 1781 [286] fig. VII non Dicks., Den tyndhudede Helvelle, Straalet Foldhat (Holmskj. 99 [52] tab. 28), Hindig Foldhat (Viborg 1793 [268]).

On moss. July—Dec. J. Skodeskov near Aarhus (1765 Holmskjold), F. Ø. Aaby, Klingstrup: L. Vesterborg.

1708. **Cyphella straminea** Schroeter, Syll. VI [674].

On wood of *Fagus.* F. Skaarup. Dec.

1709. **Cyphella villosa** (Fries) Karsten, Syll. VI [678], Syn: Peziza vill. Pers., Fries S. M. II [104], ? Peziza albomarginata Schum. no 436, Stængel-Bægersvamp (H. 37 [834]).

All the year round, on twigs of *Sarothamnus scoparius, Cytisus, Ononis, Evonymus, Symphoricarpus, Anthriscus silvestris* etc.

Solenia.

1710. **Solenia anomala** Fries Hym. [596], Syll. VI [427], R 80 a [177], Syn: Peziza anomala Pers., Fries S. M. II [106], Schum. no 2077, Fl. D. tab. 1369 fig. 2 & tab. 2082 fig. 3, Usædvanlig Bægersvamp (H. 37 [836]).

Common all the year round on branches of *Fagus silvatica, Betula, Carpinus, Acer, Tilia* and *Rubus idaeus.*

1711. **Solenia poriaeformis** (Fries) Fuckel, Syll. VI [428], Syn: Peziza por. de C., Fries S. M. II [106].

On brittle wood of *Salix*. F. Svenborg!: L. Lindet.

1712. **Solenia stipitata** Fuckel, Syll. VI [428].

Cupulis magnis, sporidiis 12 μ × 4—6 μ.

Probably not different from Solenia connivens Karsten, Syll. IX [207].

On wood and bark of *Fagus silvatica*. S. Charlottenlund!, Lyngby!. *Salix cinerea*. J. Fusingø (Lind 04). *Alnus*. Kværndrup.

Clavariaceae.

Typhula.

1713. **Typhula muscicola** Fries Epicr. [585], Syll. VI [746], Syn: Pistillaria musc. (Pers.) Fries S. M. I [498].

Leskea polyantha. L. Stensgaard (July 61).

1714. **Typhula incarnata** Lasch, Fries Epicr. [585], Syll. VI [745].

Rostrup writes in his diary that it was of a rosy colour and grew at the ground of faded tufts of Lolium. It rose from little tawny sclerotia which Rostrup calls sclerotium graminicola. The whole fungus was 1 cm in height.

Lolium. F. Klingstrup ([19]/10 1873 O. R.).

1715. **Typhula graminum** Karsten, Syll. VI [746], Græssernes Traadkølle (R 93 d [82] c. icon., 99 d [43], 02 a [340], M. L. M. May 1911).

Its sclerotium is called Sclerotium fulvum Fries S. M. II [255], Syll. XIV [1163]. A few times it has appeared as a most noxious parasite on the cereals (F. K. R. 07 a [300]).

Carex arenaria. S. Charlottenlund. *Molinium coeruleum*. J. Undallslund!. *Koeleria glauca*. J. Ulfborg (Jeppesen). *Lolium perenne*. S. Holtegaard. *Triticum sativum*. J. Brabrand (E. Thomsen). *Hordeum sativum*. J. Askov; S. Lyngby (see F. K. R. 07 a [300]). *Avena sativa*. S. Lyngby.

1716. **Typhula pusilla** (Fries) Schroeter, Syn: Pistillaria pus. Fries S. M. I [498], Syll. VI [755].

On dead leaves of *Salix fragilis*. S. Valby!, Bregentved (Rützou). Octob.—November.

1717. **Typhula ovata** (Fries) Schroeter, not Karsten, Syn: Pistillaria ov. Fries S. M. I [497], Syll. VI [753].

On dead leaves; its sclerotium is called Sclerotium inclusum Kze. & Schmidt.

Betula alba. S. Furesø (A. Seidelin), Lille Hareskov ([18]/10 86).

1718. **Typhula complanata** (de By.) Schroeter, Syll. VI [44], Poppelens Traadkølle (R 04 a [70]), Lit: R 66 [210].

On dead leaves and stems. Its sclerotia (called Sclerotium complanatum Fries S. M. II [248]) are found from January to May, Typhula is produced in October.

Populus monilifera. F. Skaarup ([29]/1 66). *Pirus malus*. S. København (O. G. P.); L. Guldborg (abundantly Bagger). *Sorbus aria*. J. Undallslund!. *Galeopsis tetrahit*. F. Skaarup. *Petasites officinalis*. J. Viborg Sø!.

1719. **Typhula erythropus** Fries S. M. I [495], Syll. VI [744], Syn: Clavaria capillaris Holm 1781 & 1791 [3] tab. 1, Clavaria villosa Schum. no 2024, Fl. D. tab. 1967 fig. 2, Typhula vill. Fries S. M. I [495], Syll. VI [744], Haarstænglet Køllesvamp (Holmskj. 1790), Den haardannede Køllesvamp (Holm 1781), Haarstænglet Kølledrager (Viborg 1793 [269]), Uldhaaret Kolbesvamp, Rødfodet Kolbesvamp (H. 37 [824]), Rødstilket Traadkølle (R 04 a [70]).

Its sclerotium is called Sclerotium crustuliforme Robert, Syll. XIV, Ldau IX [678] (see R 66 [205]).

It is a very fine and very characteristic species which has without any reason been described as T. erythropus and also as T. villosa. It is just as often to be found with sclerotium as without, which was already indicated in Holmskjold's exquisite drawing. "Typhula erythropus" which has been delineated in the Fl. D. tab. 2030 fig. 1 is stated to have been found "in trunco putrido Pini silvestris" and accordingly it cannot be the present species.

On dead leaves of *Alnus*. September—November. J. Hald!, Aarhus (Holmskjold 1764); S. Bagsværd (Schum.), Jægersborg Dyrehave (O. R.).

1720. **Typhula juncea** (Fries) Schroeter, Syn: Clavaria juncea Fries S. M. I [479], Syll. VI [724], Clavaria hirta Vahl, Fl. D. tab. 1257, Schum. no 2016, Sivagtig Køllesvamp (H. 37 [821]), Traad. Køllesvamp (R 04 a [67]).

On fallen leaves of *Betula*, *Fagus* etc. October—November. F. Vejstrup Fredskov; S. Hornbæk Plantage, Tokkekøb Hegn (R 99 a [262]), Dyrehaven (Schum.), Øen i Hvalsølille Sø (Rützou).

1721. **Typhula phacorrhiza** Fries S. M. I [495], Syll. VI [744].

Its sclerotia are called Sclerotium scutellatum Fries S. M. II [248].

On dead leaves of *Fraxinus excelsior*. S. Ermelunden (April 1892 O. R., again [4]/1 08!).

1722. **Typhula ramentacea** Fries Epicr. [586], Syll. VI [749].

Rostrup (66 [212] c. icon.) cultivated sclerotia, collected on stems of *Chenopodium bonus Henricus* and *Cirsium arvense*, from May 1865 and produced Typhula in November.

1723. **Typhula variabilis** Riess, Syll. VI [745].

Its sclerotium is called Sclerotium semen Fries S. M. II [249], Syll. XIV [1142].

Is often found on dead leaves of *Pteridium, Equisetum, Pinus, Phlox, Cirsium, Scorzonera* etc.

1724. **Typhula gyrans** Fries S. M. I [494], Syll. VI [746]. Its sclerotia are also called Sclerotium semen Fries, Kornformig Beensvamp (H. 37 [850]), Kaalfrø Støvbold (Viborg 1793 [273]). Lit: R 04 b [407].

Its sclerotia are very much like Sclerotium semen, they often occur in so great abundance on dead leaves that the common people considered them to have been dropped from the air (R 71 [58]) or to be real seeds (see Bergius 1765). They occur particularly in great abundance on dead leaves of Brassica (M. L. M. 09 [129], R 03 d [369]) or on turnips in the pits (M. L. M. May 11). Rostrup cultivated the sclerotia (R 66 [211]) which he had gathered in January 1865, and in January 1866 they produced Typhula gyrans.

Recorded on leaves of *Brassica* spp., pods of *Pisum sativum*. J. Viborg (! abundantly, sclerotia January, Typhula May), on dead stems of *Scorzonera hispanica*. F. Skaarup etc.

1725. **Typhula betae** Rostrup 81 a [92] & 93 d, Bedens Traadkølle (R 93 d, 02 a [340] & 03 d [369], M. L. M. 10 [318], May 11 & Oct. 11, F. K. R. 10 b).

Simplex, 2—5 cm alta, albida, clavula fusoideo-elongata, glabra, deorsum in stipitem contiguum attenuata et hirsuta, e sclerotio globuloso, atro, intus albo, oriunda.

The sclerotia are very much like Sclerotium semen, and the present species is altogether closely connected with the above species. The sclerotia occur in the roots and leaves of Beta vulgaris and so it must be considered a dangerous parasite (F. K. R. 07 a [303]); it was first found near Odense in 1880 and it seems not to have been noticed abroad.

1726. **Typhula trifolii** Rostrup 90 h c. icon., Kløverens Traadkølle (R 93 d [83] c. icon.).

It is very much like the above species, but it is somewhat smaller. The sclerotia occur in the stems and leaves of Papilionaceae, particularly in Trifolium. The sclerotia are released by the thrashing and are mixed with the seed; Rostrup has often found them in samples of the seed of clover from abroad though this fungus has never been mentioned in foreign literature. Rostrup considered it a dangerous parasite, on the other hand M. L. Mortensen (May 1911) does not consider it to be so dangerous.

On stems and leaves of *Trifolium pratense & repens, Anthyllis vulneraria, Medicago lupulina*. Not uncommon.

Pistillaria.

1727. **Pistillaria quisquiliaris** Fries S. M. I [497], Syll. VI [753], Syn: Tremella ligulata Schum. no 2158, Tremella clavarieformis Fl. D. tab. 1378 fig. 1 non Reess, Lit: R 66 [205].

On dead stems of *Pteridium aquilinum*. F. Skaarup (Nov. 1862); S. Birkerød (Schum.), Geelskov (Rützou). *Alsophila procera*. S. Hellebæk (F. Børgesen).

1728. **Pistillaria pusilla** Fries S. M. I [498], Syll. VI [755], Liden Stødersvamp (H. 37 [825]).

On *Juncus effusus*. S. Gammelmose (R 06 cc). *Alnus glutinosa*. S. Fredriksdal.

1729. **Pistillaria carnea** Preuss, Syll. VI [753].

Eryngium maritimum. S. Tisvilde (O. R.), June.

1730. **Pistillaria micans** Fries S. M. I [497], Syll. VI [752].

On dead stems of *Pastinaca, Carlina vulgaris, Silybum, Cirsium arvense*. F., S.

Clavariaceae.

Clavaria.

1731. **Clavaria botrytes** Fries S. M. I [466], Syll. VI [692], Fl. D. tab. 1303, Schum. no 2005, Ramaria botrytes (Pers.) Sev. Petersen 95 [83], Ramaria coralloides apicibus purpureis Holmskj. 90 [117] tab. 15, Fungus coralloides Schum. 26 [86], ? Hvid Bukkeskæg (Kylling 1688), Drueformig Køllesvamp (H. 37 [818]), Drue-Køllesvamp (Liisberg 75 [74] c. icon., R 04 a [68]).

On the ground, common, September, edible.

1732. **Clavaria rufescens** Fries Epicr. [574], Syll. VI [700].

S. Geelskov (Octob. 85), Slagelse.

1733. **Clavaria formosa** Fries S. M. I [466], Syll. VI [700], Clavaria coralloides L., Syll. VI [695], Ramaria coralloides alba Holmskj. 90 [113], tab. 12, Ramaria coralloides purpurea Holmskj. 90 [116], tab. 13, Den hvide og den røde koralformige Grensvamp (Holmskj.), Smuk Køllesvamp (H. 37 [818]), Prægtig Køllesvamp (R 04 a [68]), Koralartet Kølledrager (Viborg 1793 [270]).

It may be this species which is called "Guul Bukkeskæg" by Kylling (1688), and most likely it is the same which is called "Hane-Kamm" by O. F. Müller (1763 [32]) who states it to be common in forests and pleasant to eat. Holmskjold mentions it as juicy, brittle and savoury. It occurs on the ground in forests in autumn (August—

October); Rostrup has found specimens of 15 cm in height and 30 cm in width.

J. Skørping (Th. Schiøtz), Aarhus (P. L. 09 [36]), Tirsbæk near Vejle; F. Glorup, Svenborg (Hallas); S. Gurre!, Fredriksværk, Brede, Fredriksdal, Herlufsholm (O. R.).

1734. **Clavaria fastigiata** Fries S. M. I [467], Ramaria fast. Holmskj. 90 [90] tab. 5, Schum. no 2009, Ramaria muscoides Holmskj. 90 [87] tab. 4, Fl. D. tab. 775 fig. 3 & tab. 836 fig. 2, Schum. no 2008, Clavaria muscigena Schum. no 1999, Clavaria pratensis Pers., Fries S. M. I [471], Clavaria corniculata Schaeff., Fries S. M. I [471], Syll. VI [694], Hornformig Køllesvamp (H. 37 [819]), Fladtoppet Kølledrager (Viborg 1793 [270]), Den butendede eller toppede Grensvamp (Holmskj.), Eng Køllesvamp (H. 37 [819]), Mos Køllesvamp (R 69 [58]).

Holmskjold states it to be found in abundance in Thorseng where it is eagerly eaten by the cows and geese that prefer fungi to grass. Common among the grass in moist meadows. September—November.

J. Tværsted!, Aarhus (P. L. 09 [35]); F. Ellerup, Skaarup; S. Tisvilde, Fredriksdal (O. F. Müller 1767 [226]), Boserup (Exc. 4/11 96), Billesborg (Exc. 7/10 94).

1735. **Clavaria flava** Fries S. M. I [467], Syll. VI [692], Syn: Ramaria coralloides flava seu lutea Holmskj. 90 [117] tab. 14, Ramaria flava Sev. P. 95 [83] c. icon., Clavaria aurea Schaeff., Syll. VI [699], Den gule koralformige Grensvamp (Holmskj.), Guul Køllesvamp (H. 37 [818]).

J. Marselisborg Skov (P. L. 09 [36]); F. Glorup; S. Tisvilde (H. M.), Gurre (E. W.), Fredriksdal (Rützou), Bagsværd (E. W.), Boserup (H. M.); Møen Lilleklint.

1736. **Clavaria cinerea** Fries S. M. I [468], Syll. VI [695], Syn: Clavulina cin. (Bull.) Schroeter 89 [443].

Common in the forests. July—November. Læsø (C. H. O.); J. Common (P. L. 09 [35]); S. Boserup (Exc. 4/11 96).

1737. **Clavaria stricta** Fries S. M. I [468], Syll. VI [721], Schum. no 2006, Fl. D. tab. 1302 fig. 1, Syn: Clavariella stricta (Pers.) Karsten, Rank Køllesvamp (R 04 a [69]).

On the ground, in the forest, Sept.—Octob. F. Glorup; S. Birkerød (Schum.), Geelskov (O. R.), Prinsessestien!, Køge Aas (Ø. W.), Holbæk (Th. Leth), Hæsede Rende.

1738. **Clavaria palmata** Fries S. M. I [469], Syll. VI [704], Syn: Clavariella palm. (Pers.) Schroeter.

S. Boserup Skov (23/9 05 O. R.).

1739. **Clavaria abietina** Fries S. M. I [469], Syll. VI [701], Schum. no 2007, Fl. D. tab. 2030 fig. 2, Ramaria abietina Sev. P. 95 [83], Fyrrens Køllesvamp (H. 37 [818]), Granens Køllesvamp (R 69 [58]).

Very common on the ground in spruce-forests in the fall.

1740. **Clavaria apiculata** Fries S. M. I [470]. Syn: Clavariella apiculata (Fries) Karsten.

On fallen twigs of *Picea excelsa*. J. Skanderborg (P. L. 09 [36]).

1741. **Clavaria pyxidata** Fries S. M. I [470], Syll. VI [698], Schum. no 2000, Fl. D. tab. 1304 fig. 1.

S. "In sylvis ad terram nudam" (Schum.).

1742. **Clavaria crispula** Fries S. M. I [470], Syll. VI [705], Kruset Køllesvamp (H. 37 [819]).

S. Slotsbjergby (Sev. P.).

1743. **Clavaria amethystina** Fries S. M. I [472], Syll. VI [693], Ramaria amethystina Holmskjold 90 [110] tab. 11, Den fiolette Grensvamp, Amethystfarvet Køllesvamp (H. 37 [819]), Amethyst-Køllesvamp (R 69 [58]).

It occurs occasionally in forests and moors in August—October. Holmskjold states it to be eatable.

Recorded from J. Marselisborg (Holmskj.); S. Charlottenlund (Holmskj.); L. Knuthenborg Dyrehave.

1744. **Clavaria cristata** Fries S. M. I [473], Syll. VI [695], Schum. no 2004, Ramaria cristata Holmskj. 90 [92] tab. 6, Clavaria fallax Fl. D. tab. 1304 fig. 2, Fladtoppet Køllesvamp (H. 37 [819]), Den kammede Grensvamp (Holmskj.), Kam-Køllesvamp (R 69 [58]). In all likerihood Ramaria ornithopodioides Holmskj. 90 [84] tab. 3, Den fuglefodede Grensvamp, is identical with the present species.

Quite common on the ground in the forest, July-October. J. Krabbesholm!, Aarhus (P. L. 09 [35]), Silkeborg; F. Glorup, Skaarup; Lang. Carlseje; S. Fredriksværk, Fredensborg, Nørreskov (forming fairy-rings see R 85 d), Bagsværd (Schum.), Brede, Hæsede Rende; L. Stensgaard.

1745. **Clavaria rugosa** Fries S. M. I [473], Syll, VI [696], Schum. no 2001, Fl. D. tab. 1301, Syn: Clav. digitata Schum. no 2002, Clav. palmata Schum. no 2003, Rynket Køllesvamp (H 37 [820] & R 69 [58]).

Common on the ground in the forest, Sept.—Nov. J. common (P. L. 09 [36]), Vejle (O. Hørring); F. Vejstrup; S. Krogenborg, Marianelund, Ravnholt, Geelskov, Dyrehaven (O. R.), Forsthaven (E. W.), Boserup (Exc. 4/11 96), Bregentved (Rützou).

Clavaria byssiseda Fries S. M. I [476], Syll. VI [706], Syn: Ramaria fimbriata Holmskj. 90 [98] c. icon., Silkeulden Kollesvamp (H. 37 [820]).

Clavaria mucida Fries S. M. I [476], Syll, VI [729], Syn: Clav. pallida Schum. no 2022, Fl. D. tab. 1376.

Surely no Clavaria-species, rather any lichen.

1746. **Clavaria pistillaris** Fries S. M. I [477], Syll. VI [722], Schum. no 2012, Fl. D. tab. 1255, O. F. Müller 1776 [256], Den stoderdannede Kølle-

svamp (Holmskj. 90 [12] tab IV & V), Knøvelagtig Kølledrager (Viborg 93 [268]), Stor Køllesvamp (Sev. P. 95 [86] c. icon.), Stor Køllesvamp (R 69 [58]).

On the ground in the forest, Sept.—Nov., edible.

J. Aarhus, Skanderborg, Silkeborg; F. Dalum (Jak. Lge), Glorup, Holmdrup Dagskov, Klingstrup; S. Hellebæk (E. W.), Slagslunde Hegn (Exc. [20]/9 85), Geel Skov (R 89 h & Plowright 88), Fredriksdal (O. F. Müller 1767 [226]), Brede, Boserup (Jac. Hartz & M. L. M.), Slagelse.

1747. **Clavaria ligula** Fries S. M. I [477], Syll. VI [722], Schum. no 2014, Syn: Clavaria minor Müller 1780, Fl. D. tab. 837 fig. 1, ? Syll. VI [732], Clav. cochleareformis Schum. no 2015 (old specimens), Remformig Køllesvamp (H. 37 [820]), Tunge-Køllesvamp (R 04 a [67]).

On moist meadows, August—October. F. Rygaard Skov; S. Tisvilde, Birkerød (Schum.); Særslev (Th. Leth).

1748. **Clavaria contorta** Fries S. M. I [478], Syll. VI [723], Holmskjold 90 [29] tab. XII, Tremella ferruginea Schum. no 2154, Fl. D. tab. 1852 fig. 1, Snoet Køllesvamp (H 37 [820] & R 04 a [68]), Lit: v. Höhnel 04 [425], Lind 07 c [272].

On dead twigs of *Alnus glutinosa & incana*, common in the fall. *Corylus avellana*. J. Aarhus (Holmskj.); F. Oure; S. Bagsværd (Holmskj). *Fagus silvatica*. F. Klingstrup; S. Jonstrup Vang, Dyrehaven (V. Sarauw), Jyderup!. *Quercus sessiliflora*. B. Almindingen (R 06 dd).

1749. **Clavaria fistulosa** Fries S. M. I [479], Syll. VI [723], Holmskjold 90 [15] tab. VI, Eriocladus fistulosus Lév., Clav. ardenia Sow., Clav. strigosa Schum. no 2013, Fl. D. tab. 1256, Clav. filipes Fl. D. tab. 1076 fig. 1, Pibet Køllesvamp (H. 37 [820] & R 69 [59]), Rank Køllesvamp (Sev. P. 95 [86]).

It may be as high as 30 cm and up to 2 cm broad.

Common in fagineta, on dead twigs on the ground, October—January. J. Krabbesholm!, Aarhus (Holmskj. & P. L. 09 [35]); F. Odense (Th. Schiøtz), Klingstrup (Exs. Thüm. Myc. no 1407); S. common; Falst. Kohaven (C. H. O.).

1750. **Clavaria rufa** Fries S. M. I [480], Syll. VI [717], Fl. D. tab. 475 fig. I, Syn: Clav polymorpha rufa Müller 1775; Rødbrun Køllesvamp (H. 37 [821]).

In pastures and woods. Fanø (P. N.); S. Slagelse (Sev. P.).

1751. **Clavaria inaequalis** Fries S. M. I [481], Syll. VI [719], O. F. Müller in Fl. D. tab. 836 fig. 1, Clav. angustata Pers. (see Schroeter 89), "Clavaria fragilis Holmskj." Fl. D. tab. 1783 fig. 2, Clav. dissipabilis Britz., Syll. VI [719], Clav. similis Boud. & Pat., Syll. IX [251] (see Cotton 06), Uligedannet Køllesvamp (H. 37 [821]), Knippe-Køllesvamp (R 04 a [68]).

In grassy places. J. Viborg!, Utoft Hede (Børgesen [202]); F. Magaard, Klingstrup; S. Hornbæk.

1752. **Clavaria rosea** Fries. S. M. I [482], Syll. VI [717], Rosenrød Køllesvamp (Sev. P. 95 [85] c. icon.).

To be sure very near connected the above mentioned species. J. Ræbild Bakker ([30]/8 97 Sofie Johannsen see R 99 a [262]).

1753. **Clavaria argillacea** Fries S. M. I [482]. Syll. VI [719], Fl. D. tab. 1852 fig. 2, Leerfarvet Køllesvamp (H. 37 [821]).

On sandy ground, borders of woods, avenues etc. J. Aarhus (P. L. 09 [35]), Stendalsgaard (E. W.), Borris (F. & W. 08); S. Sorø (Vahl).

1754. **Clavaria fragilis** Fries S. M. I [484], Holmskjold 90 [7] tab. II, Schum. no 2017, Fl. D. tab. 1966 fig. 2, Clav. vermicularis Scop., Fries S. M. I [484], Fl. D. tab, 775 fig. 2, Syll. VI [720], Clav. flavipes Schum. no 2018, Fl. D. tab. 1966 fig. 1, Clav. simplex Viborg 1793 [268], Enkelt Kølledrager, Skør Køllesvamp, Snever Køllesvamp (H. 37 [821]), Ormformet Køllesvamp (R 04 a [68]).

In grassy places in woods, Sept.—Nov. J. Viborg!, Randbøl Hede, Stendalsgaard Plantage, Aarhus (Holmskj. & P. L. 09 [36]); F. Holmdrup, Skaarup; Lang. Carlseje; S. Ølstykke (Exc. [20]/9 85), Geelskov (O. R.), Charlottenlund (Holmskj. & Didrichsen), Boserup Skov (Exc. [4]/11 96).

1755. **Clavaria canaliculata** Fries S. M. I [484], Syll. VI [728].

On the ground in the wood. F. Tiselholt ([19]/10 73).

1756. **Clavaria acuta** Fries S. M. I [485], Syll. VI [701].

On acorn. S. Fredriksværk ([30]/6 97).

Pterula.

1757. **Pterula multifida** Fries Hym. [682], Syll. VI [741], Syn: Clavaria penicillata Bulliard, Schum. no 2025.

On the ground under spruce fir. Oct.—Dec. J. Vejle (O. Hørring), S. Krogenborg Skov (O. R.), Søllerød (O. R.), Boserup ([11]/11 73 Thomsen).

Sparassis.

1758. **Sparassis crispa** Fries S. M. I [465], Syll. VI [690], Almindelig Blomkaalssvamp (Sev. P. 95 [84] c. icon.).

On the ground under spruce fir, September, J. Hinnerup (P. L. 08 [43]); S. Ruderhegn ([18]/9 81 Rützou).

Hydnaceae.

Mucronella.

1759. **Mucronella fascicularis** Fries Hym. [629], Syl. VI [512], Wt. I [358], Schroeter 89 [463], Syn: Hydnum. fasc. A. & S., Fries S. M. I [418], Hydnum minutum Schum. no 1978, Fl. D. tab. 1789.

On old stumps and decaying Polyporaceae etc. Sep.—Octob. S. Slagslunde Skov (Exc. 20/9 85), Fortunen (Schum.), Hareskov!.

Grandinia.

1760. **Grandinia granulosa** Fries Epicr. [527], Syll. VI [501], Syn: Hydnum gran. Pers., Fries S. M. I [419].

On dead wood and bark of *Picea excelsa*. S. Teglstruphegn. *Pinus silvestris*. Ermelunden (O. R.). *Fagus silvatica* common. *Quercus robur*. J. Krabbesholm Skov!.

1761. **Grandinia crustosa** Fries Epicr. [528], Syll. VI [502], Schroeter 89 [450], Syn: Hydnum crust. Pers., Fries S. M. I [419], Fl. D. tab. 2271 fig. 2, Skorpet Pigsvamp (H. 37 [813]).

Quite common on dead wood of *Fagus* etc.

Odontia.

1762. **Odontia barba-jovis** Fries Epicr. [528], Syll. VI [506], Syn: Hydnum b. j. Bulliard, Fries S. M. I [421].

Alnus glutinosa. S. Fredriksdal. *Fagus silvatica*. S. Jonstrup Vang (V. A. P. & O. R.).

1763. **Odontia fimbriata** (Fries) Schroeter, Syn: Hydnum fimb. Fries S. M. I [421].

Fagus silvatica. S. Dyrehaven (June 05 O. R.).

Phlebia.

1764. **Phlebia radiata** Fries S. M. I [427], Syll. VI [498], Syn: Phleb. aurantiaca (Sow.) Karsten.

On wood of *Fagus* etc. F. Vejstrup; S. Dyrehaven (Raunkiær).

Radulum.

1765. **Radulum orbiculare** Fries El. I [149], Syll. VI [493], Syn: Hydnum radula Fries S. M. I [423], Rasp-Pigsvamp (R 69 [55]), Raspsvamp (R 04 a [73]).

Common on dead branches of *Pinus strobus, Alnus, Betula, Corylus, Cornus sanguinea*.

1766. **Radulum tomentosum** Fries Epicr. [525], Syll. VI [494].

A dubious species. Recorded by Rostrup on *Populus canadensis* from Lolland.

1767. **Radulum quercinum** Fries Epicr. [525], Syll. VI [494], Syn: Hydnum querc. Pers., Fries S. M. I [423].

On fallen branches of *Quercus robur*. J., common (P. L. 09 [43]), F. Tiselholt; S. Tokkekøb Hegn, Jægersborg.

Hydnum.

1768. **Hydnum imbricatum** Fries S. M. I [398], Syll. VI [430], Fl. D. tab. 176, 1500 & 1965, Schum. no 1973, Tegllagt Pindhat (Viborg 93 [265]), Skællet Pigsvamp (H. 37 [811] & R 04 a [72]).

On the ground in pine woods, October. J. Rold Skov (P. L.), Kolding (P. L.); S. Hornbæk, Fredriksdal (Vahl).

1769. **Hydnum gracile** Fries S. M. I [400], Syll. VI [435].

S. Hornbæk Plantage (Octob. 97 O. R.).

1770. **Hydnum repandum** Fries S. M. I [400], Syll. VI [435], Schum. no 1974, Fl. D. tab. 310, Bugtet Pindhat (Viborg 93 [266]), Rundbugtet Pigsvamp (H. 37 [811]), Almindelig Pigsvamp (R 69 [55] & 04 a [72] c. icon., Liisberg 75 [69] c. icon. Sev. P. 95 [81] c. icon.).

Quite common in woods oft forming fairy-rings, Aug.—Nov., edible.

J. Margrethelund!, common near Aarhus (P. L. 09 [38]); S. Lille Hareskov, Fredriksdal (Müller 1767 [223]), Lyngby Mose (E. W.), Skjoldnæsholm (Rützou).

1771. **Hydnum rufescens** Fries S. M. I [401], Syll. VI [436].

To be sure only a variety of the above (Cooke 04).

S. Bregentved ([25]/10 87 Rützou).

1772. **Hydnum violascens** Fries S. M. I [401], Syll. VI [437].

S. Billesborg Granskov (Exc. [7]/10 94).

1773. **Hydnum coeruleum** Vahl, Fl. D. tab. 1374, Syn: Hydn. suaveolens Scop. f. coerulea Hornem., Fries Hym. [602], Syll. VI [438], Himmelblaa sødlugtende Pigsvamp (H. 37 [812]).

Møens Klinteskov, Aasen near Dronningestolen ([26]/7 01 see R 05 b [308]).

1774. **Hydnum zonatum** Fries S. M. I [405], Syll. VI [441], Bæltet Pigsvamp (R 04 a [72]).

On the ground in woods. Aug.—October. S. Hornbæk (O. R.), Geelskov (R 89 h); Møen Liselund, Klintholm.

1775. **Hydnum nigrum** Fries S. M. I [404], Syll. VI [442].

S. Nørreskov (Aug. 97 O. R.).

1776. **Hydnum graveolens** Fries Epicr. [509], Syll. VI [442].

J. Sofiendal (P. L.), Silkeborg Nordskov (P. L.); S. Hornbæk Plantage ([17]/10 97 O. R.), Tokkekob Hegn (Exc. [3]/10 09.).

1777. **Hydnum melaleucum** Fries S. M. I [406], Syll. VI [443], Hvidrandet Pigsvamp (R 04 a [72]).

In pine woods. J. Viborg Plantage, Havredal ([20]/9 85); S. Jyderup Plantage.

1778. **Hydnum tomentosum** Fries S. M. I [405], Syn: H. cyathiforme Schaeff., Syll. VI [443], Fl. D. tab. 1020 fig. 2, Bægerdannet Pindhat (Viborg 1793 [266]), Tragt-Pigsvamp (R 04 a [72] c. fig.).

In pine woods, often in dens clusters, August—October. J. Margrethelund!, S. Geelskov (Heckmann), Billesborg (Exc. 7/10 94); B. Helligdommen (Joh. Lge).

1779. **Hydnum luteolum** Fries S. M. I [408], Syll. VI [445].

S. Slagelse Skov (20/8 88 Sev. P.).

1780. **Hydnum auriscalpium** Fries S. M. I [406], Syll. VI [445], Fl. D. tab. 1020 fig. 1, Schum. no 1975, Ørekradser-Pindhat (Viborg 1793 [266]), Fyrrekogle-Pighat (R 98 q [252] c. icon.), Kogle-Pigsvamp (R 69 [55], R 02 a [343], R 04 a [73] c. icon., Sev. P. 95 [82] c. icon.), Sidestillet Pigsvamp (H. 37 [812]), Lit: Ørsted 63 c. icon., O. F. Müller 1767 [224].

On fir cones and among fir leaves, not uncommon, found all the year round, especially Aug.—Nov. J. Bangsbo (V. S.), Aarhus (P. L. 09 [38]), Greisdalen; F. Skaarup; S. Hornbæk Plantage (Børgesen), Geelskov (Ørsted), Ruderhegn (O. R.), Lerchenborg (Otto Smith), Herlufsholm (O. R.).

1782. **Hydnum coralloides** Fries S. M. I [408], Syll. VI [446], Fl. D. tab. 450, Hydn. muscoides Schum. no 1979, Koraldannet Pindhat (Viborg 93 [266]), Koral-Pigsvamp (R 02 a [343], 04 a [73], Sev. P. 95 [81]).

On decayed trees and stumps, especially of *Fagus, Quercus* and *Picea excelsa*. Edible (R 80 a [177]), found June—October. J. Vorgaard, Silkeborg (R. Langkilde); S. Ryget Skov (Exc. 30/9 06), Nørreskov (27/10 78 H. M.), Fredriksdal (R 92 i), Dyrehaven (L. K. R.), Bognæs near Roskilde (Jac. Hartz), Gl. Køgegaard (Carlsen); L. Maribo (Sev. P.).

1783. **Hydnum erinaceum** Fries S. M. I [407], Syll. VI [449], Pindsvin-Pigsvamp (R 02 a [343], 04 a [73]).

On old trunks of Fagus and Quercus, rare, its mycelium winters in the wood and produces receptacles every year (R 80 a [176]). Edible, found Sept.—Dec.

S. Arresødal (Helms), Hareskov (26/10 78), Langebæk (Malling), Fangerød near Lellinge (Holck).

1784. **Hydnum corrugatum** Fries S. M. I [414], Syll. VI [450].

On trunks of *Betula*. J. Viborg.

1785. **Hydnum cirrhatum** Fries S. M. I [411], Syll. VI [451], Schum. no 1976, Trevlet Pigsvamp (H. 37 [813]).

On decayed stumps of *Fagus silvatica* in the fall. S. Charlottenlund (Schum).

1786. **Hydnum diversidens** Fries S. M. I [411], Syll. VI [451], R 02 a [343].

S. Eriksholm (17/8 85 Rützou).

1787. **Hydnum septentrionale** Fries S. M. I [414], Syll. VI [453].

An old stumps of *Fagus silvatica*, S. København; L. Maribo (Aug. 93 Sev. P.).

1788. **Hydnum pudorinum** Fries El. I [133], Syll. VI [456].
On fallen branches. L. Stensgaard ([28]/8 03).

1789. **Hydnum squalinum** Fries S. M. I [420], Syll. VI [459].
On decayed trunks of *Fagus*. S. Dyrehaven (Nov. 88 O. R.).

1790. **Hydnum membranaceum** Fries S. M. I [415], Syll. VI [460], Syn: H. crustosum Schum. no 1977.
S. Ulvedalene ([19]/10 73 again [25]/11 88 O. R.).

1791. **Hydnum ferruginosum** Fries S. M. I [416], Syn: Caldesinella fer. Sacc., Syll. VI [478], Hydn. tomentosum Schrader, Filtet Pindhat (Viborg 1793 [266]), Filtet Pigsvamp (H. 37 [812]), Rust-Pigsvamp (R 69 [55]).
Found occasionally on decayed stumps of *Fagus*, Aug.—October. F. Magaard; S. Dronninggaard (O. R.), Fredriksdal (O. R.), Dyrehaven (O. R.); L. Bøllesminde.

1792. **Hydnum denticulatum** Fries El. I [140], Syll. VI [463].
On wood of *Fraxinus excelsior*. S. København ([29]/8 96 Weismann); L Stensgaard Skov.

1793. **Hydnum pinastri** Fries S. M. I [417], Syll. VI [464], Syn: Merulius hydnoides Hennings, Syll. XVII [146], Mer. himantoides Bres. non Fries, Mer. favosus Mez 08 [249] non Willd., Gymnoderma favosum Hoffm.
On the ground, on sawdust etc. J. Aarhus ([15]/9 09!).

1794. **Hydnum udum** Fries S. M. I [422], Syll. VI [469].
Alnus glutinosa. S. Fredriksdal, Herlufsholm (Jan. 79 O. R.).

1795. **Hydnum mucidum** Fries S. M. I [418], Syll. VI [471], Skimmel-Pigsvamp (R 04 a [73]).
On decayed wood of *Pirus malus* etc. F. Klingstrup; S. Marianelund (Exc. [20]/9 08).

1796. **Hydnum farinaceum** Fries S. M. I [419], Syll. VI [472], Syn: H. crustosum Schum. no 1977 non Pers., Mel-Pigsvamp (R 04 a [73]).
On rotten wood of *Fagus silvatica*. S. Søllerød (June 91 O. R.).

1797. **Hydnum argutum** Fries S. M. I [424], Syll. VI [472].
On trunks of *Salix* etc. July—Octob. S. Fureso (Exc. [19]/10 84), Dronninggaard (O. R.), Dyrehaven (O. R.), Bregentved (Rützou).

Sistotrema (incl. *Irpex*).

1798. **Sistotrema confluens** Fries S. M. I [426], Syll. VI [480].
Aug.—Sept. On moss and fallen fir-leaves. J. Skanderborg Dyrehave (P. L. 09 [43]); S. Vinderød; Moen Lilleklint; B. Blykobbe ([12]/9 90 see R 92 g [72], 06 dd).

1799. **Sistotrema occarium** (Secretan) Fries Epicr. [520], Syll. VI [481].
On the ground and stumps of *Fagus*. Møen between Dronningestolen and Sommerspiret ([16]/8 88 see R 89 i [232], again 01 see R 05 b [308]).

1800. **Sistotrema pendulum** A. & S., Syn: Irpex pend. Fries El. [143], Syll. VI [482].
On fallen fir-leaves. J. Bangsbo Skov ([22]/11 07 V. S.).

1801. **Sistotrema fuscoviolaceus** Ehrb., Syn: Irpex fusc. Fries El. I [144], Syll. VI [483], Lit: R 89 i [233], 02 a [344].
On dead trunks and branches of *Pinus strobus, montana, silvestris, Picea excelsa*, quite common, J., F., S., B., all the year round.

1802. **Sistotrema spathulatum** Persoon, Syn: Irpex spathulatus Fries El. I [146], Syll. VI [490].
On fallen fir-leaves. S. Vintersbølle (Exc. [7]/10 00).

1803. **Sistotrema obliquum** A. & S., Syn: Irpex obl. Fries S. M. I [424], Syll. VI [490].
Very common on decayed trunks and branches, especially of *Fagus, Quercus* and *Carpinus* (Neger 06).

Polyporaceae.

This large group of fungi which is most important in phytopathological respect has particularly caught the interest of Rostrup, and many specimens of Polyporaceae are contained in his collections. Besides Rostrup C. Raunkiær has also contributed much to procure information as to what species of Polyporus occur in Denmark. Raunkiær has examined them very closely and described their microscopical characters, but he has published nothing concerning them. Raunkiær's most accurate observations of the size, shape and colour of the spores, of the character of the mycelium etc. are of great value, but I am sorry that I cannot introduce them here to a greater extent than has already been done.

Merulius.

1804. **Merulius aureus** Fries El. I [62], Syll. VI [415].
On timber. S. København ([29]/8 96 Weismann).

1805. **Merulius corium** Fries El. I [58], Syll. VI [413], R 02 a [390], Syn: Auricularia aurantiaca Schum. no 1993, Læder-Aaresvamp (R 69 [54]).
On dead wood and timber, very common, Octob.—April.

1806. **Merulius lacrymans** Fries S. M. I [328], Syll. VI [419], Fl. D. tab. 2026, Syn: Mer. vastator Tode, Schum. no 1920 & 1921, Fyr (R [76]), Taarefuld & Ødelæggende Foldsvamp (H. 37 [802]), Grædende Aaresvamp, Taaresvamp (R 69 [54]), Hussvamp (R 69 [54], 02 a [387] c. icon., Sev. P. 95 [79]), Lit: Grønlund 87, Ravn 03, Schaffnit 10, Havelik 10, Mez 08, Rostrup & Weismann 98.

On timber, common all the year round.

1807. **Merulius himantioides** Fries S. M. I [329], Syn: Mer. umbrinus Fries El. I [61], Mer. silvestris Falck, Rom 11 [28] c. icon., Mez 08 c. icon.

Most mycologists seem to agree in separating the said two forms of Merulius lacrymans (f. domestic and f. silvestris) either as varieties or as autonomous species.

On the trunk of *Castanea vesca*. S. Charlottenlund ($^{2}/_{11}$ 90 O. R. and again $^{28}/_{10}$ 96 see R 97 m [44] & 98 a [21]).

1808. **Merulius rufus** Fries El. I [63], Syll. VI [417], Schroeter 89 [465].

On dead trunks and branches of *Quercus robur*. F. Broholm ($^{18}/_{10}$ 73); S. Dyrehaven (L. K. R.).

1809. **Merulius serpens** Fries S. M. I [327], Syll. VI [417], Syn: Mer. fugax Fries S. M. I [328], Syll. VI [416], Mer. porinoides Fries S. M. I [329], Syll. VI [417], Mer. crispatus Müller, Fl. D. tab. 716 fig. 2, Fries S. M. I [328], Syll. VI [418] & Syll. XVII [146], Krøllet & Krybende Foldsvamp (H. 37 [802]).

Pinus silvestris. S. Tisvilde. *Picea excelsa*. S. Køge Aas. *Quercus robur*. J. Margrethelund!; F. Broholm.

1810. **Merulius tremellosus** Fries S. M. I [327], Syll. VI [411], Schum. no 1922, Fl. D. tab. 1553, Syn: Agaricus betulinus Müller Fl. D. tab. 776 fig. 1, Bævrende Foldsvamp (H. 37 [801]), Bævrende Aaresvamp (R 69 [54] & Sev. P. 95 [79] c. icon.).

Sept.—Feb., common on decayed stumps of *Betula, Populus, Fagus* etc.

Polyporus.

1811. **Polyporus ovinus** Fries S. M. I [346], Syll. VI [57], Syn: Boletus ov. Schaeffer, Fl. D. tab. 1618.

S. Gribskov ($^{8}/_{9}$ 12 Mundt).

1812. **Polyporus brumalis** Fries S. M. I [348], Syll. VI [63], Syn: Boletus ciliaris Hornem., Fl. D. tab. 1297, Riim-Poresvamp (H. 37 [805]), Vinter-Poresvamp (R 69 [51]).

Not uncommon on trunks of *Fagus silvatica*, May—Sept. J. Levring!, Aarhus (P. L. 09 [42]); F. Vejstrup Aaskov; S. Tokkekøb Hegn (O. R.), Jægersborg (R 90 n), Hvalsølille Sø (Rützou), Faxe (O. R.); L. Stenskov.

1813. **Polyporus arcularius** Fries S. M. I [342], Syll. VI [67].
Sporidiis oblongis 5—8 μ × 2,5—3,5 μ (Raunkiær).
On fallen branches in the ground, October—April. J. Skovby!; S. Tokkekøb Hegn (Raunkiær), Ravnholt (O. R.), Ruderhegn (O. R.), Dronninggaard (O. R.), Øvrerød!.

1814. **Polyporus incendiarius** Bong., Fries Hym. [529], Syll. VI [70].
On fallen branches of *Fagus silvatica*. F. Æbelø (Exc. $^{4}/_{8}$ 95).

1815. **Polyporus Schweinitzii** Fries S. M. I [351], Syll. VI [76], Syn: Polyp. sistotremoides A. & S., Merulius giganteus Sauter (see v. Höhnel 06 a), Lit: R 02 a [382].
On wood of *Pinus strobus* and other species of *Pinus* and *Picea*, very destructive. S. Marianelund (Exc. $^{20}/_{9}$ 08), Ruderhegn ($^{26}/_{9}$ 88 Plowright), Bøndernes Hegn, Fredriksdal (R 92 i); L. Pederstrup ($^{24}/_{7}$ 79).

1816. **Polyporus tomentosus** Fries S. M. I [351], Syn: Polystictus tom. Fries, Syll. VI [208].
On old stumps of *Picea excelsa*. S. Ruderhegn (Octob. 07 O. R.).

1817. **Polyporus perennis** Fries, S. M. I [350], Syn: Polystictus per. Fries, Syll. VI [210], Boletus per. L., Fl. D. tab. 1075, Müller 1767 [222], Schum. no 1937, Boletus confluens Schum. no 1938, Boletus leucoporus Holmskj. 99 [57] tab. 30, Vedvarende Rørhat (Viborg 93 [263]), Hvidhullet Rørhat (Holmskjold), Fleeraarig Poresvamp (H. 37 [805]), Hat-Poresvamp (R 04 a [85]).
On sandy ground, July—October, common in Jutland and North-Seeland.

1818. **Polyporus pictus** Fries Epicr. [435], Syn: Polystictus pictus Fries Syll. VI [210].
On clayey ground. L. Stensgaard (Aug. 05).

1819. **Polyporus squamosus** Fries S. M. I [343], Syll. VI [79], Syn: Boletus favus L., Fl. D. tab. 893, Bol. squamosus Hudson, Fl. D. tab. 1196, Schum. no 1943, Bol. maximus Schum. no 1944, Bol. platyporus Schum. no 1945, Vidhullet Rørhat (Viborg 93 [265]), Skællet Poresvamp (H. 37 [804], R 69 [51] & 80 a [192], Sev. P. 95 [75], Lind & Ravn 10 [30] c. icon.).
A very destructive parasite (see R 80 a [192], 96 q [114], 02 a [369]) the largest specimen were weighing 2 kg and measuring 50 cm across. June—August.
Sporidiis hyalinis, 1-guttulatis, oblique pedicellatis, 14—16 μ × 6 μ.
Salix viridis. S. Helsingør. *Populus canadensis*. J. Beder. *Ulmus*. F. Odense; S. Lyngby!, Kastelvolden, Skelskør!. *Juglans regia*. F. Kerteminde. *Fagus silvatica*. J. Kalø Vig (Exc. $^{29}/_{6}$ 03); S. Færgelunden (R 95 l), Vemmetofte, Vintersbølle; Møens Klint!. *Acer pseudoplatanus*. S. Egebjerg!, Esplanaden; Falst. Stubbekøbing. *Tilia europaea*. J. Stensballegaard!; S. Ormsø. *Pirus malus*.

S. Algistrup (F. K. R.). *Fraxinus excelsior*. Common. *Sambucus nigra*. Falst. Stubbekøbing.

1820. **Polyporus Boucheanus** (Klotzsch) Fries Epicr. [431], Syn: Favolus Bouch. Klotzsch, Syll. VI [392].

L. Søllested Skov (Aug. 85 O. R.); Møen Klinteskov.

1821. **Polyporus melanopus** Fries S. M. I [347], Syll. VI [81], Syn: Polyp. umbilicatus (Scop.) Sacc., Syll. VI [68].

On old stumps. S. Landbohøjskolens Have, Vintersbølle; L. Stenskov; Møen Klinteskov.

1822. **Polyporus picipes** Fries S. M. I [353], Syll. VI [83].

S. Hammersholt; Møen Klinteskov.

1823. **Polyporus varius** Fries S. M. I [352], Syll. VI [84], Syn: Boletus calceolus Bull., Schum. no 1941, Bol. lateralis Bolton, Fl. D. tab. 1075 fig. 1, Schum. no 1942, Side-Rørhat (Viborg 93 [264]), Foranderlig Poresvamp (H. 37 [805], R 69 [51], Sev. P. 95 [75]).

Sporidiis cylindraceis, sursum rotundatis, basi oblique apiculatis, 8—11 µ × 3—4 µ.

Quite common on old stumps, occasionally also found on trunks. *Salix caprea*. J. Krabbesholm Skov!. *Fagus silvatica*. Common. *Fraxinus excelsior*. S. Eskemose!; L. Stensgaard.

1824. **Polyporus elegans** Fries Epicr. [440], Syll. VI [85].

On fallen branches. J. Aarhus (P. L. 09 [42]); F. Dalum!, Glorup; L. Stenskoven.

1825. **Polyporus nummularius** Fries Hym. [536], Polyp. elegans subsp. num. Syll. VI [85].

On fallen branches. J. Skovby!, Vinding (Exc. 15/7 72); Lang. Carlseje; S. Teglstrup Hegn, Hæsede Rende; L. Stensgaard.

1826. **Polyporus lucidus** Fries S. M. I [353], Syn: Fomes luc. Fries, Syll. VI [157], Boletus luc. Leysser, Schum. no 1940, Fl. D. tab. 1253 & 1557, Boletus resupinatus Müller, Fl. D. tab. 894.

Alnus glutinosa. J. Hald (K. Pedersen), Marselisborg (P. L. 09 [42]), Silkeborg (Toussieng); S. Jægersborg, Charlottenlund (Schum.), Sorø (Schmidt). *Betula alba*. J. Holmegaards Mose. *Fagus silvatica*. J. Dronninglund Storskov (Westermann); S. Jægerspris (Borch); L. Stenskoven. *Pirus malus*. S. Dæmpegaard (Aksel Hansen).

1827. **Polyporus umbellatus** Fries S. M. I [354], Syll. VI [95], Syn: Boletus ramosus Vahl, Fl. D. tab. 1197, Schum. no 1948, Skjermformig Poresvamp (H. 37 [805]), Lit: R 89 i [231], 92 g [73], 99 a [261] c. icon., 02 a [370]).

This large and conspicuous fungus seems to occur very rarely. It

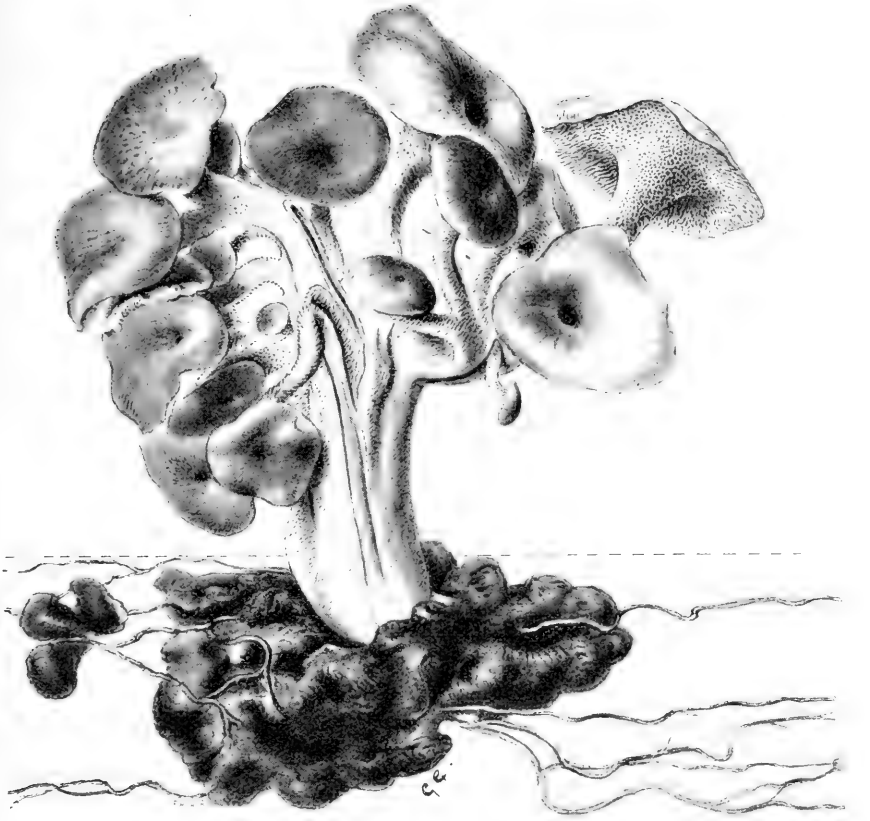


Fig. 30. Polyporus umbellatus.
From R 02 a.

has only been found in a few places on woody ground under beech-trees. Its sporophores grow out of large sclerotia which are often as large in the soil as paving stones (Sclerotium giganteum). The sclerotia may be up to 20 cm in length and have a strong smell while in a fresh condition.

Aug.—Sept. J. Moesgaard Skov (P. L. 09 [42]); Fænø; F. Svenborg Hestehave; S. Birkerød (Schum.), Slagelse (Sev. P.); L. Hegningen near Hardenberg (Bornebusch).

1828. **Polyporus frondosus** Fries S. M. I [355], Syll. VI [95], Syn: Polyp. intybaceus Fries Epicr. [446], Polyp. giganteus Hornemann non Pers., Fl. D. tab. 1793, Løvdannet Rørhat (Viborg 93 [264]), Mangehattet Poresvamp (H. 37 [805]), R 02 a [369].

This species also grows on woody ground particularly round old, decayed stumps, and the sporophores sometimes proceed from a tuberous, stony sclerotium (see R 97 m [44]).

Sept.—October. J. Riis Skov on stumps of *Quercus* (P. L. 09 [42]); F. Glorup; S. Grib Skov, Charlottenlund, Boserup (Exc. 4/11 96), Borup, Køge Aas (Ø. W. 09).

1829. **Polyporus giganteus** Fries S. M. I [356], Syll. VI [99], Syn: Boletus gig. Persoon, Schum. no 1947, Polyp. acanthoides Bull., Clavaria aequivoca Holmskj. 90 [32], tab. 13, Den tvetydige Køllesvamp (Holmskjold), Kæmpe-Poresvamp (H. 37 [806], R 69 [51], 02 a [369]).

Sporidiis globosis, guttulatis, 4,5—7 μ diam. (Raunkiær).

August—October. On old stumps of *Fagus* and *Ulmus*. J. Aarhus (Holmskj. & P. L. 09 [42]); Fænø; F. Rygaard, Lamdrup Kohave, Broholm (Han. Sehested), Knagelbjerg Skov: S. Jonstrup Vang (H. M.), St. Hareskov (H. M.), Dronninggaard, Dyrehaven, Søndermarken (Heckmann), Skjoldnæsholm!; L. Bøllesminde; Falst. Hanenov.

1830. **Polyporus candidus** (Roth) Fries Epicr. [449], non Lév., Syll. VI [101], Syn: Polyp. floriformis Quel., Syll. VI [102].

S. Boserup (Exc. 4/10 96).

1831. **Polyporus sulphureus** Fries S. M. I [357], Syll. VI [104], Syn: Polyp. caudicinus (Schaeffer) Schroeter, Boletus caud. Schaef., Schum. no 1949, Fl. D. tab. 1019, Svovlgul Poresvamp (H. 37 [806], Lind & Ravn 10 [30]).

A very noxious parasite (R 80 a [184], 84 g, 92 t, 93 a [103], 02 a [350] c. icon.). April—Sept. Its conidial form is called Ptychogaster aurantiacus = Ceriomyces aurant. Patouilard, Syll. VI [386].

Salix alba. S. Søholm. *Salix alba* × *fragilis*. S. København. *Fagus silvatica*. Fænø; F. Langesø: S. Dronninggaard (H. M.), Dyrehaven (Raunkiær), Vemmetofte, Sorø. *Quercus robur*. J. Krabbesholm!, Herning; Fænø; F. Dalum (Jak. Lge), Wedellsborg (Schrøder); S. Grib Skov, Kagerup (Oppermann), Charlottenlund, Svenstrup (R 97 n), Billesborg (R 94 k), Herlufsholm, Suserup (Exc. 13/6 91): L. Knuthenborg (Buch). *Cerasus serotina* & *virginiana*. S. Landbohøjskolens Have. *Pirus malus*. S. Bregentved (Rützou). *Gleditschia triacantha*. S. Forsthaven. *Robinia pseudacacia*. S. Farum!. *Fraxinus excelsior*. S. Gurre.

1832. **Polyporus imbricatus** Fries S. M. I [357], Syll. VI [106], Syn: Boletus imbric. Bull., Schum. no 1946, Taglagt Poresvamp (H. 37 [806]).

Sept.—Octob. *Fagus silvatica*. S. Charlottenlund (Raunkiær). *Fraxinus excelsior*. F. Glorup.

1833. **Polyporus epileucus** Fries Epicr. [452], Syll. VI [109].

Fagus silvatica. L. Hardenberg (Aug. 97 Weismann).

1834. **Polyporus alutaceus** Fries S. M. I [360], Syll. VI [109].

Pinus silvestris. S. Tisvilde (July 98).

1835. **Polyporus pallescens** Fries S. M. I [369], Syll. VI [114].
Salix grandifolia. S. Landbohøjskolens Have ([12]/9 95).

1836. **Polyporus chioneus** Fries S. M. I [359], Syll. VI [114].
Picea excelsa. S. Geelskov, Ruderhegn ([16]/11 87 Rützou).

1837. **Polyporus lacteus** Fries S. M. I [359], Syll. VI [108].
On old stumps of *Fagus*. Sept.—Nov. J. Silkeborg (Weiss); S. Ruderhegn, Charlottenlund (Raunkiær).

1838. **Polyporus fragilis** Fries El. I [86], Syll. VI [111].
Sporidiis hyalinis, oblongis, curvulis, 3—5 μ × 1,5—2 μ (Raunkiær).
Aug.—Nov., common on old stumps of *Larix, Picea* & *Pinus*.

1839. **Polyporus mollis** Fries S. M. I [360], Syll. VI [113].
S. Dyrehaven, October (Raunkiær).

1840. **Polyporus caesius** Fries S. M. I [360], Syll. VI [113] & Syll. XVII [114], Syn: Boletus caes. Schrader, Schum. no 1964, Fl. D. tab. 1964 fig. 1, Dunkel Poresvamp (H. 37 [806]).
Sporidiis hyalinis, oblongis, curvulis, 4—5 μ × 1—2 μ (Raunkiær).
Common on old fir-stumps. October—May.

1841. **Polyporus trabeus** Fries Epicr. [434], Syll. VI [112], Lit: Bresadola 08 [37].
Sporidiis ovatis, curvulis, hyalinis, 5,5—8 μ × 3—4 μ (Raunkiær).
On old stumps of fir. S. Ermelunden ([19]/10 93 Raunkiær).

1842. **Polyporus croceus** Fries S. M. I [364], Syll. VI [117].
On stumps of *Betula alba*. S. Fredriksdal (Plowright 88); B. Rø Plantage (R 06 dd).

1843. **Polyporus nidulans** Fries S. M. I [362], Syll. IX [171], Pol. niveus Sacc., Syll. VI [118], Pol. rutilans Fries S. M. I [362], Syll. VI [119].
The name of Polyp. niveus is, no doubt, owing to a misprint. Pol. nidulans and rutilans which Fries himself considers to be closely related species cannot be maintained as autonomous species; specimens will often be found corresponding just as well to the description of nidulans as to that of rutilans. It contains a pigment soluble in spirit of a bright cherry colour (see also Bamberger 09).
May—Sept. *Alnus incana*. J. Margrethelund!. *Betula alba*. S. Teglstruphegn, Ermelunden. *Quercus robur*. J. Hald Egeskov. *Sorbus aucuparia*. J. Højris Skov!; S. Fredriksdal (R 92 i), Bromme Plantage. *Pirus malus*. F. Aaby ([17]/5 62).

1844. **Polyporus fumosus** Fries S. M. I [367], Syll. VI [123], R 02 a [353], Syn: Boletus coeruleus Schum. no 1958, Fl. D. tab. 1964 fig. 2, Polyp. salignus Fries Epicr. [452], Syll. VI [143], Polyp. holmiensis Fries Hym. [544],

Syll. VI [143], Polyp. scanicus Fries Hym. [549], Syll. VI [122] (see Romell 09), Graagul Poresvamp (R 04 a [84]).

Sporidiis hyalinis, ovatis, parum curvatis, eguttulatis, 5—7 μ × 3—4 μ (Raunkiær).

Common, on the bark of many different trees, Nov.—March. *Salix alba* & *viminalis, Populus, Ulmus, Fagus, Tilia, Pirus malus, Sambucus nigra.*

1845. **Polyporus adustus** Fries S. M. I [363], Syll. VI [125], R 02 a [353], Fl. D. tab. 1850 fig. 1, Syn: Boletus nigricans Schum. no 1968, Boletus concentricus Schum. no 1959, Boletus placenta Schum. no 1960, Sveden Poresvamp (H. 37 [807] & R 69 [51]).

Sporidiis hyalinis, ovatis, parum curvatis, 4—6 μ × 3 μ (Raunkiær). Common on the bark of the trunks especially of Fagus, Nov.—April.

Picea excelsa, Populus deltoides, Betula, Fagus, Acer pseudoplatanus, Aesculus hippocastanum, Sorbus aucuparia.

1846. **Polyporus crispus** Fries S. M. I [363], Syll. VI [125].

J. On a post near Skagen ($^{5}/_{8}$ 96).

1847. **Polyporus kymathodes** Rostk., Fries Epicr. [457], Syll. VI [125].

Pinus montana. S. Hornbæk ($^{20}/_{10}$ 08 F. K. R.).

1848. **Polyporus amorphus** Fries S. M. I [364], Syll. VI [127].

On trunks and branches of *Pinus* & *Picea.* Sept.—April. J. Tolne (V. S.), Kvissel (V. S.), Stendalsgaard; F. Trolleborg; S. Jægerspris (V. A. P.), Tokkekøb Hegn, Ravnholt Hegn (O. R.), Klampenborg!, Bromme Plantage, Billesborg Skov (R 95 k); B. Blykobbe (R 06 dd).

1849. **Polyporus hispidus** Fries S. M. I [362], Syll. VI [129], Børstehaaret Poresvamp (R 96 q, 02 a [383], Lind & Ravn 10 [29] c. icon.).

A noxious parasite, attacking the trees as a wound-parasite and destroying the heart-wood. The wood becomes a yellowish—white colour and is divided in small cubes. August—Sept.

Fagus silvatica. F. Glorup (Lyman); S. Fredensborg, Ordrup Krat (F. K. R.), Slagelse. *Quercus robur.* J. Krabbesholm!; L. Christianssæde ("Falkeegen" $^{11}/_{8}$ 1870). *Pirus communis.* S. Rosenborg (Madsen). *Fraxinus excelsior.* S. København (Høgh-Hansen), Skjoldnæsholm (la Cour).

1850. **Polyporus cuticularis** Fries S. M. I [363], Syll. VI [128].

Sporidiis ovatis, parum curvatis, luteo-fuscescentibus, 7—9,5 μ × 5—7 μ (Raunkiær).

Fagus silvatica. S. Ruderhegn (Raunkiær), Dyrehaven (Nov. 92 E. Dalgas), Køge!, Slagelse.

1851. **Polyporus Weinmanni** Fries Epicr. [459], Syll. VI [132].

Sept.—Dec. On trunks of *Pinus strobus.* S. Ruderhegn!. *Picea excelsa.* J. Skanderborg (P. L.), Silkeborg Østerskov; S. Geelskov (O. R.), Dyrehaven (O. R.), Jyderup Plantage, Fredrikslund (Muus).

1852. **Polyporus spumeus** Fries S. M. I [358], Syll. VI [134].
Sept.—Dec. On old stumps of *Quercus*. S. Maareskov (1910 Spur).

1853. **Polyporus dryadeus** Fries S. M. I [373], Syll. VI [136], R 02 a [378].
Is to be found on the lower part of the trunks of *Quercus robur*. S. Charlottenlund (Weismann), Basnæs (R 93 e); L. Knuthenborg, Hardenberg. *Tilia europaea*. S. Pileallé.

1854. **Polyporus betulinus** Fries S. M. I [358], Syll. VI [139], Syn: Boletus bet. Bull., Schum. no 1953, Fl. D. tab. 1254, Birkens Poresvamp (H. 37 [806], R 02 a [367] c. icon., 04 a [82] c. icon.).
Rostrup calles it a true parasite (R 83 d [242] & 96 q), later on Mayr (84) has confirmed the same fact.
On the trunks of *Betula pubescens* & *verrucosa*, common in the fall.

1855. **Polyporus vegetus** Fries Epicr. [464], Syn: Fomes veg. Fries, Syll. VI [179], Fomes laccatus (Kalchbr.) Sacc., Syll. XI [89], Boletus velutinus Vahl, Fl. D. tab. 1138.
A true parasite, especially attacking Fagus silvatica.
Seems to be rather unknown abroad. Correct specimens are contained in Allescher & Schnabl's Exsiccat. no 228. Pileus hard and woody, perennial, composed of many strata of tubes, cuticle thick, hard, resinous. Flesch rather soft, floccose, foxy-rust-coloured, tubers short, ferruginous, pores very small, of a distinct, sulphur-red colour. Spores ovoid, brown, 11—15 μ × 7—9 μ. The conidia (Sepedonium fuscum Rostrup 88 c [92]) are brown, granular, petiolate, 11—13 μ × 8—9 μ, to be found on the upper surface of the pileus. The sporophores of Polyporus vegetus become very large. The largest specimens found in Denmark are 60 cm × 30 cm across and 15 cm in height, consisting of 15 strata. In several places in his publications Rostrup has been mistaken in indicating this fungus by the name of Polyporus resinosus (R 69 [52], 80 a [162], 88 c [92], Lange 87).
Populus. Falst. Stubbekøbing. *Fagus silvatica*. F. Glorup, Hesselagergaard; S. Tisvilde Hegn (Exc. 2/10 98), Dyrehaven (Didrichsen), Ledreborg!, Thureby (Toussieng), Vemmetofte; L. Juelinge (July 61), Hardenberg, Flintinge; Falst. Hanenov. *Tilia europaea*. J. Marselisborg (P. L. 09 [42]). *Sambucus nigra*. F. Magaard (April 61 Lindhard).

1856. **Polyporus applanatus** (Wallr.) Fries Epicr. [465], R 80 a [162] & 02 a [384], Syn: Fomes app. Sacc., Syll. VI [176], Fladtrykt Poresvamp (R 04 a [86]).
Salix alba. S. Hvidovre. *Populus deltoides* common. *Corylus avellana*. S. Geelskov (Rützou). *Fagus silvatica*. J. Buderupholm; S. Tisvilde. *Pirus communis*. S. Valby!. *Tilia europaea*. S. Pilealleen. *Fraxinus excelsior*. S. Eskemose.

1857. **Polyporus fomentarius** Fries S. M. I [374], Syn: Boletus fom.

L., Schum. no 1955, O. F. Müller 67 [223], Bøgesvampen (Müller 63 [29]), Tønder-Rørhat (Viborg 93 [264]), Tønder-Poresvamp (H. 37 [808], R 69 [52]), Bøgens Fyrsvamp (R 02 a [371] c. icon., 04 a [85]), Lit: R 80 a c. icon., 83 d [238] c. icon., 89 a [8], Sev. P. 95 [76] c. icon., Schum. 26 [685].

Kylling reports it (1684) to have been found at Charlottenlund indicated as: "a fungus used for tinder-boxes"; later on (1688 [49]) he indicates it as "Fungus in caudicibo nascens unguis equini figura. On old beeches".

Populus alba. F. Trolleborg. *Alnus glutinosa.* S. Dyrehaven. *Ulmus.* S. Holsteinborg (Oppermann see R 93 a [102]). *Betula* & *Fagus.* Common. *Aesculus hippocastanum.* S. Herlufsholm (Vind).

Polyporus nigricans Fries S. M. I [375], Syll. VI [180], Sort Poresvamp (R 02 a [378]).

Rostrup considers Polyp. nigricans as an autonomous species which was present on the trunks of Betula already in prehistoric times (R 83 d [243]). Neger also considers it an autonomous species stating it from Dynddalen. B. (Neger 06). I am inclined to consider all the specimens of Polyp. nigricans I have seen to be old blackened specimens of Polyp. fomentarius on Betula which have been growing in more dry localities. The Klotzschian Polyp. nigricans from Scotland, quoted by Fries in Hym. [558] is, according to Romell (11 [15]) also merely the old blackened state of Polyp. fomentarius (see also Schroeter 89 [486]).

1858. **Polyporus igniarius** Fries S. M. I [375], Syn: Fomes ign. Sacc. Syll. VI [180], Boletus ign. L., Schum. no 1954, Fl. D. tab. 953, Egesvamp (Schum. 08 [21]), Knøske-Rørhat (Viborg 1793 [265], Schade 1811 [166]), Ild-Poresvamp (H. 37 [808], R 69 [53]), Tøndersvamp (Schum. 08 [21], R 02 a [375] & 04 a [85]).

Rostrup has found it in several places in peat-bogs, and Sophus Møller has found it among broken tools from the fireplaces of our ancestors. Kylling mentions it (1688 [49]) as "Fungus cerasorum imbricatum. Fungus growing on old cherry-trees".

It is a wound parasite attacking various trees. The wood of the host becomes brown during the first stage of attack, and afterwards white. This fungus and Polyp. fomentarius are limited each to its special host-plants, and it is very rare that both should attack the same species of trees (viz. Populus alba). I have never seen the present species on Betula or on Fagus, and I must consider the statements to this effects contained in the books to be based on a mistake. The form of Polyp. igniarius to be found on Pomaceae has been named Polyporus pomaceus Fries.

Noticed on *Salix alba, fragilis, caprea, pentandra, Populus alba, tremula,*

deltoides, Alnus glutinosa, Quercus robur (see R 80 a [182]), *Quercus sessiliflora* (R 93 a [103]), *Corylus avellana.* S. Marianelund (Exc. [20]/9 08); B. Almindingen (R 06 dd). *Hippophaës rhamnoides.* J. Klitterne (R 80 a [183]); Møen (R 89 i [233]). *Prunus persica, armeniaca, domestica, avium, insititia, spinosa, Crataegus oxyacantha. Tilia intermedia.* J. Dvergetved (V. S.).

1859. **Polyporus conchatus** Fries S. M. I [376], Syn: Fomes conch. Fries, Syll. VI [174], Polyporus salicinus Fries, S. M. I [376], Fomes sal. Fries Syll. VI [184], Pilens Poresvamp (H. 37 [808]), Musling-Poresvamp (R 80 a [193]).

Sporidiis hyalinis, ovatis, 5—6 μ × 4—5 μ (Raunkiær).

On the bark of trunks and branches of Salix, perennial. *Salix alba.* F. Skaarup ([14]/5 61); Falst. Hanenov. *Salix caprea.* J., F., S., Møen.

1860. **Polyporus evonymi** Kalchbrenner, Syn: Fomes lonicerae Weinm. subsp. evonymi Kalch., Syll. VI [182].

Evonymus angustifolius. J. Dvergetved (March 90 V. S.).

1861. **Polyporus ribis** Fries S. M. I [375], R 02 a [380], Syn: Fomes ribis Fries, Syll. VI [184], Boletus ribi Schum. no 1957, Fl. D. tab. 1790 fig. 2, Fungus ribi innascens Kylling 1688 [49], Ribsens Poresvamp (R 69 [53]), Ribsbuskenes Fyrsvamp (Lind & Ravn 10 [53]), Lit: Lind 10 k.

Perennial, quite common on the stems of old bushes of Ribes, noticed on *Ribes rubrum, grossularia, nigrum, alpinum.*

1862. **Polyporus marginatus** Fries S. M. I [372], Syn: Fomes marg. Fries, Syll. VI [168], Polyp. pinicola Fries S. M. I [372], Fomes pinic. Fries, Syll. VI [167], Polyp. igniarius Vahl Fl. D. tab. 953 non Linné, Bartræers Poresvamp (H 37 [807]), Lit: Romell 09, Stewart 10, Quel. 88 [396], R 93 e.

A noxious parasite on living trunks of many species of trees, also on timber (R 02 a [354]).

Picea excelsa. J. Viborg!, Fusingø (Jac. Hartz), Hadsund (Svendsen); S. Tisvilde (Helms), Tokkekøb Hegn (R 93 e), Bidstruphegn, Geelskov, Fredriksdal (R 92 i), Boserup (Bøggild), Skjoldnæsholm (la Cour); Møen Klintholm (Lyman). *Alnus.* S. Aasevang (O. R.). *Betula.* S. Ruderhegn (O. R.). *Fagus silvatica.* S. Lillerød (O. R. & Raunkiær), Ruderhegn (Raunkiær).

1863. **Polyporus populinus** Fries S. M. I [367] non Schulz, Syn: Fomes pop. Syll. VI [197], Boletus pop. Schum. no 1951, Fl. D. tab. 1791, Polyporus connatus Fries Epicr. [472], R 02 a [367], Fomes con. Fries, Syll. VI [196], Poppel-Poresvamp (R 69 [52] & 80 a [193]), Sammenvokset Poresvamp (R 04 a [84]).

It is necessary that the name of Polyp. populinus should be preferred to the more common one of Polyp. connatus because the former occurs in S. M., but the latter does not. Schumacher's description corresponds very well to the form of Polyp. connatus common on poplars at the road-sides in the north of Seeland.

Common on many different trees. *Salix cinerea, alba, grandifolia, Populus alba, candicans, deltoides, Betula alba, Fagus silvatica, Aesculus hippocastanum, Pirus malus, Sambucus nigra.*

1864. **Polyporus annosus** Fries S. M. I [373], Epicr. [471], Hym. [564], Icon. select. II [186], not El. I [106] (= Pol. roburneus), R 96 o [115], Syn: Fomes ann. Sacc., Syll. VI [197] & Syll. XVII [120], Heterobasidion ann. Bref. Unt. VIII [149], Boletus scutatus (Hoffm.) Pers. Myc. europ. II [85], Poria scut. Hoffm. Vegetabilia in Hercyniae subterraneis collecta iconibus tab. IX & X (optim.), Polyp. scut. Harz in Allesch. & Schnabl.s Exsicc. no 432, Polyp. undatus (Pers.), Polyp. subpileatus Weinm., Polyp. serpentarius (Pers.), Pol. scoticus Klotsch in Smith. Engl. Flora V [152], Polyp. Gillotii Roum. Rev. Myc. Octob. 1882, Poria makraola Rostk., Syll. VI [301], Boletus cryptarum Bull., Schum. no 1965, Polyp. crypt. Fries S. M. I [376], Fl. D. tab. 1963, Fomes crypt. Sacc., Syll. VI [205], Trametes radiciperda Hartig, Polyporus radic. Rostrup 79 b [42], 02 a [354], Skjult Poresvamp (H. 37 [808]), Rodens Træsvamp (R 79 b [42]), Rodfordærveren (R 81 b [7] & 83 a), Lit: R 79 b [42], 80 a [163], 81 b [7], 83 a, 84 d [232], 90 a [195], 93 a, 93 g, 93 o, 96 o [115], 96 h, 96 q, 98 a [5] c. icon., 02 a, 02 z, 06 k, Henning 95 [19], Schotte 08, Neger 06.

I have been obliged to deviate from the rule I have followed as to all the other said species: only to state the synonyms contained in Danish books or used in Saccardo's Sylloge, because I have in no other place found the different names which have been applied to this fungus in the course of time. On account of its obscure life it has only during recent years become sufficiently known how great a damage it causes to the trees of the forests. Rostrup particularly has the merit of having examined the attacks of this fungus on Danish forest-trees; he was the first to discover that it might attack Fagus silvatica (R 93 g). There is much to indicate that it is much more noxious in Denmark than in the neighbouring countries; half of all Danish firs are destroyed by this fungus.

Abies alba (rare see R 90 a [195], Henning 95 [19]). *Abies balsamea.* J. Palsgaard Plantage. *Larix decidua* (rare see R 83 a [5]). *Picea excelsa, alba, sitchensis, Menziesii. Pinus silvestris, montana, australis, strobus, Banksiana. Pseudotsuga Douglasii. Thuja occidentalis. Juniperus communis* (see R 96 q). *Betula alba, Fagus silvatica, Ulmus montana, Sorbus aucuparia, scandica, Crataegus monogyna & oxyacantha* (R 96 h, 02 z, 06 k), *Pirus communis, Prunus avium* (R 93 o), *Calluna vulgaris* (Wielandt 07), *Fraxinus excelsior.*

1865. **Polyporus vulpinus** Fries S. M. I [361], Syn: Polystictus vulp. Sacc., Syll. VI [249], Polyp. rheades Pers. Myc. europ. II [69] (see Bresadola 08 [38]), Inonotus Hisingeri Karsten 82 [49].

On trunks and branches of *Populus tremula.* J. Harrestrup ([24]/9 85), Skovsgaard near Viborg!. *Sorbus aucuparia.* S. Zoologisk Have (Frederiksen).

1866. **Polyporus radiatus** Fries S. M. I [369], Syn: Polystictus rad. Sacc., Syll. VI [247], Polyp. nodulosus Fries Epicr. [474], Polyp. polymorphus Rostk., Fries Hym. [566] (see v. Höhnel 06 b), Ællens Poresvamp (R 02 a [380] c. icon., 04 a [85]).

Sporidiis ovatis, 4—5,5 µ × 3—4 µ, initio hyalinis, denique subfuscis.

A very noxious parasite, the mycelium penetrates the wood of the trunks, and the sporophores break forth through the bark from the very base of the trunk and up to 5 m high most frequently arranged in a helix (R 85 d). Schroeter is mistaken in describing the resupinate form often to be found on dead branches of Fagus as Polyporus obliquus; Rostrup also uses the same name (R 02 a). It is a strange fact that this crusty form is almost always infected by Nectria cosmariospora, which never occurs on the projecting form. Rostrup has also indicated this form as Polyp. rufus, Rødbrun Poresvamp (R 69 [53]).

Alnus glutinosa & *incana*, common (R 80 a [88], 89 a [9], 96 q [113]). *Betula alba*. S. Gurre!, Lillerød (R 80 a [188], 93 a, 93 e). *Fagus silvatica*, common. J., F., S., Falst., Møen (R 93 a [103]). *Quercus robur*. Falst. Korselitse (R 99 b). *Corylus avellana*. F. Broholm (H. Sehested); S. Landbohøjskolens Have. *Carpinus betulus*. L. Christianssæde Skov; B. Almindingen (R 06 dd [375]). *Ulmus montana*. S. Dyrehaven. *Acer pseudoplatanus*. J. Rathlousdal. *Prunus avium*. J. Viborg!. *Fraxinus excelsior*. F. Skaarup.

1867. **Polyporus albidus** Trog, Fries Epicr. [475], Syn: Polystictus alb. Sacc., Syll. VI [239] & Syll. XVII [114].

Picea excelsa. S. Asnæs Forskov (Sept. 84).

1868. **Polyporus hirsutus** Fries S. M. I [367], Syn: Polystictus hirs. Sacc., Syll. VI [257], Laadden Poresvamp (H. 37 [807]).

Not uncommon on trunks of *Fagus silvatica*. J. Baggesvogn, Hald (Gad), Aarhus (P. L. 09 [42]); S. Jægersborg.

1869. **Polyporus velutinus** Fries S. M. I [368], R 02 a [353], Syn: Polystictus velut. Sacc., Syll. VI [258], Boletus velutinus Schum. no 1956, Bolet. pubescens Schum. no 1950, Polyp. pub. Fries S. M. I [367], Syll. VI [135], Fl. D. tab. 1790 fig. I, Boletus placenta Schum. no 1960, Dunet Poresvamp (H. 37 [807]), Fløjls-Poresvamp (R 04 a [84]).

Sporidiis oblongatis, curvulis, basi stipitatis, hyalinis, 6—8 µ × 3—3,5 µ (Raunkiær).

Populus tremula. S. Charlottenlund (Raunkiær). *Salix*. S. Fredriksberg (Schum.). *Betula alba*. J. Hals (F. K. R.); S. Bidstruphegn (O. R.), Bagsværd (Schum.). *Fagus silvatica*. S. Folehaven, Jægersborg, Nørreskov. *Quercus robur*. S. Charlottenlund (Raunkiær).

1870. **Polyporus zonatus** Fries S. M. I [368], Fl. D. tab. 2028 fig. 2, Syn: Polystictus zon. Sacc., Syll. VI [260], Boletus angulatus Schum. no 1962.

Its colour is quite as by Polyp. versicolor, but the sporophori are thicker and more durable; oft found in great number attacking the trunks of living trees. October—January.

Populus deltoides. S. Klampenborg, Charlottenlund. *Populus alba & tremula.* F. Broholm; S. Tisvilde. *Quercus robur.* J. Hald!; S. Jægersborg (Prytz). *Fagus silvatica.* J. Voergaard Storskov. *Sorbus fennica.* S. Landbohøjskolens Allé. *Fraxinus excelsior.* J. Krabbesholm Skov!.

1871. **Polyporus versicolor** Fries S. M. I [368], R 02 a [353], Boletus vers. L., Schum. no 1961, Fl. D. tab. 1554, O. F. Müller 1767 [223], Polystictus vers. Sacc., Syll. VI [253], Boletus plicatus Schum. no 1963, Hydnum tomentosum Oeder Fl. D. tab. 534 fig. 3, Fleerfarvet Rørhat (Viborg 93 [265], Schade 11 [166]), Spraglet Poresvamp (Sev. P. 95 [76]), Broget Poresvamp (R 69 [52]), Lit: Bayliss 08.

Sporidiis oblongis, curvulis, hyalinis, basi oblique stipitatis, 6—8 μ × 2—3 μ (Raunkiær).

Very common, Octob.—Dec., on stumps of *Populus, Betula, Fagus, Acer, Fraxinus.*

1872. **Polyporus abietinus** Fries S. M. I [371], R 02 a [353], Syn: Polystictus ab. Sacc., Syll. VI [265], Boletus incarnatus Schum. no 1971, Fl. D. tab. 1298, Violetsporet Poresvamp (R 04 a [83]).

In respect of colour, size, locality etc. it is quite like Sistotrema fuscoviolaceus, and Quélet (88 [291]) has indeed united both; I find, however, quite regularly a difference between the shape and size of the pores.

On stems and branches of *Picea excelsa, Pinus silvestris & montana,* October—May.

1873. **Polyporus Wynnei** Berk. & Br., Syn: Polystictus Wynnei Sacc., Syll. VI [264].

J. Rold Skov ($^{27}/_{9}$ 96).

1874. **Polyporus obliquus** Fries S. M. I [378], Fries 64 [346], v. Höhnel 07, Syn: Fomes obliq. Sacc., Syll. VI [206], not Polyp. obliq. Schroeter 89.

A very noxious parasite, destroying the last-formed wood of each year, hence the annual rings of wood become free from each other. Rare.

Fagus silvatica. F. Glorup (Lyman Aug. 97); S. Dyrehaven!.

1875. **Polyporus subspadiceus** Fries S. M. I [378], Syn: Poria subsp. Sacc., Syll. VI [321].

Populus tremula, J. Krabbesholm Skov!. *Fagus silvatica.* S. Dronninggaard (O. R.), Dyrehaven (Sept. 92 Raunkiær).

1876. **Polyporus ferruginosus** Fries S. M. I [378], R 02 a [383], Syn: Poria ferr. Fries, Syll. VI [327].

Fagus silvatica. J. Hald (Gad), Aarhus (P. L. 09 [42]); F. Bramstrup Mølle (O. R.): S. Jyderup!, Jonstrup Vang; Møen Klinteskov. *Robinia pseudacacia*. S. Fredriksborg.

1877. **Polyporus Braunii** Rabenhorst, Syn: Polystictus Br. Sacc., Syll. VI.

A tropical species, originating from Brazil.

On wooden tubs. S. Botanisk Have (P. Hennings 92 [242]).

1878. **Polyporus emollitus** Fries Hym. [571], Karsten 82 [82].

On trunks and branches of *Quercus robur*. J. Krabbesholm!, Hald!, Sødal ([11]/12 05!).

1879. **Polyporus punctatus** Fries Hym. [572], Syn: Poria Friesiana Bres. 08 [40], Lit: Egeland 11 [369].

The pileus is woody, thin, resembling Polyp. igniarius but every part of the fungus is inseparably attached to the matrix. The tubes are stratose as by Polyp. levigatus.

Salix caprea. J. Højris Skov!. *Corylus avellana*. B. Bobbeaadalen!. *Hippophaës rhamnoides* (hosp. nov.). Møen (! [14]/6 09).

1880. **Polyporus violaceus** Fries S. M. I [379], Syn: Poria violacea Fries, Syll. VI [319] & Syll. XVII [135].

On a rotten stump. S. Fredriksdal ([5]/9 Raunkiær).

1881. **Polyporus placenta** Fries Hym. [572], Syn: Poria plac. Fries, Syll. VI [302] & Syll. XVII [132].

Picea excelsa. S. Lerchenborg (Chr. Pedersen), Køge Aas.

1882. **Polyporus incarnatus** Fries S. M. I [379], Syn: Poria inc. Fries Syll. VI [317], Boletus inc. A. & S., Schum. no 1971.

On decaying wood of *Abies*. S. Bagsværd (Schum.).

1883. **Polyporus rhodellus** Fries S. M. I [380], Syn: Poria rhod. Fries, Syll. VI [302].

S. Fredriksdal Skov ([5]/9 91 Rützou).

1884. **Polyporus albo-carneo-gilvidus** Romell, Syn: Poria alb. Sacc., Syll. IX [192], Polyp. micans Pers. non Fries, Glindsende Poresvamp (H. 37 [809]).

On brittle wood of *Quercus robur*. J. Sødal ([17]/9 05!); S. Fortunens Indelukke (O. R.).

1885. **Polyporus xanthus** Fries S. M. I [379], Syn: Poria xanthus Fries, Syll. VI [317] & Syll. XVII [133].

It is impossible to tell whether the present specimens should really belong to this species which has been most incompletely described. The Danish specimens have always been found on decayed stumps

of Larix decidua, they are of a bright orange or sulphur colour. The pileus is thin, inseparably attached to the matrix, forming a rough crust of which some parts may protrude as much as 2 cm as is the case with Polyp. serialis. Old specimens lose their peculiar, bright, yellow colour growing almost white. Pores minute, very short and irregular; flesh becoming brittle and cheese-like.

Larix decidua. S. Esrom (Svendsen), Ruderhegn (O. R.), Geelskov.

1886. **Polyporus sinuosus** Fries S. M. I [381], Syll. VI [322] & Syll. XVII [131].

On a fir-balk. S. Tokkekøb Hegn ([19]/9 91 Rützou). Trunk of *Betula*. S. Ruderhegn!.

1887. **Polyporus viridans** (B. & Br.), Syn: Poria viridans Sacc., Syll. VI [316].

On stumps of *Picea excelsa*. S. Fredriksdal Skov ([9]/5 05 Muus).

1888. **Polyporus medulla panis** Fries S. M. I [380], Syn: Poria med. Fries, Syll. VI [295], Boletus med. Pers., Schum. no 1967, Fl. D. tab. 2028 fig. 1, Krumme-Rørhat (Viborg 93 [265]), Krummeagtig Porehat (H. 37 [808]).

Quite common on stumps of fir in the forest and on timber in houses, but not causing much damage as it only penetrates the outer layer of the timber (R 02 a [350]).

1889. **Polyporus vitreus** Fries S. M. I [381], Syn: Poria vitrea Fries, Syll. VI [296], Poria undata (Fries El. I [111]) Bres., Syll. XVII [131], Poria cincta Berk. Syll. VI [301], Polystictus Broomei (Rabh.) Sacc., Syll. VI [291].

On stumps of *Alnus*. F. Svenborg Storehave ([10]/10 64). *Fagus silvatica*. F. Broholm; S. Flommen.

1890. **Polyporus vulgaris** Fries S. M. I [381], Syn: Poria vulg. Fries, Syll. VI [292], Boletus cellulosus Müller, Fl. D. tab. 716 fig. 1, Celleagtig Rørhat (Viborg 93 [265]), Almindelig Poresvamp (H. 37 [809], R 69 [53]).

On bark and wood of coniferous trees. Common. J. (P. L. 09 [42]), F., Lang., S., B. (R 06 dd).

1891. **Polyporus luteo-albus** Karsten, Syn: Poria lut. K., Syll. VI [299] & IX [190].

On wood of fir. S. Dyrehaven (Octob. 06 O. R.).

1892. **Polyporus molluscus** Fries S. M. I [384], Syn: Poria moll. Fries, Syll. VI [293], Boletus moll. Pers., Schum. no 1969, Fl. D. tab. 1299, Fryndset Poresvamp (H. 37 [809]).

Octob.—Nov. On *Populus nigra*. S. Herlufsholm. *Populus deltoides*. S. Geelskov (O. R.), Ruderhegn.

1893. **Polyporus sanguinolentus** Fries S. M. I [383], Syn: Poria sang.

(A. & S.) Pers., Syll. VI [313] & Syll. XVII [135], Podoporia sang. v. Höhnel 09 [442].

On decaying wood. S. Furesø!, Ermelunden (O. R.).

1894. **Polyporus deformis** (Fries) Romell in lit., Syn: Irpex def. Fries Hym. [622], Poria radula Pers., Syll. VI [310] & Syll. XVII [132] not Polyp. radula Fries.

Sporidiis ovatis, parum curvatis, hyalinis, 1—2-guttulatis, 4—5 µ > 3—4 µ (Raunkiær).

This species is very common on fallen branches especially of Fagus on the ground; at first it is quite white, later on tawny, like straw.

Widely diffused, thin, inseparable, recognizable by its large pores which are often irregularly angular, the entire fungus often resembles a Sistotrema.

L. Romell informs me that this is the species which is usually called Poria vaporaria by English mycologists. This is the species which Persoon called Poria radula, but it is not that which Fries indicated by the same name.

On dead branches of *Alnus, Corylus, Fagus.* Octob.—January.

1895. **Polyporus vaporarius** Fries S. M. I [382] non Persoon, Syn: Poria vap. Fries, Syll. VI [311] & Syll. XVII [131], Boletus tunicatus Schum. no 1970, Varmebeds-Poresvamp (R 04 a [84]).

Recorded from all parts of the country as well on timber and old stumps in the forest as on fallen leaves and twigs on the ground (see R 96 q & 02 a [349] c. icon.), especially on timber in hot-houses.

1896. **Polyporus Vaillantii** Fries S. M. I [383], Syn: Poria Vail. Fries, Syll. VI [312], Poria vaporaria Persoon non Fries (see Bresadola. Annal. myc. 1903 [178]).

S. Brøndshøj (O. R.), Botanisk Have.

1897. **Polyporus pini** Fries S. M. I [68], Syn: Trametes pini Fries, Syll. VI [345], Fyrrens Træsvamp (R 79 b [58]), Fyrrens Poresvamp (R 02 a [379] c. icon.).

It is not so common by far in Denmark as in the neighbouring countries (see A. Møller 04) most likely because it only attacks firs more than 50 years old (see R 93 a).

Pinus silvestris. S. Ruderhegn (Dec. 92 Lyman), Strandvejen, Holsteinborg (Svendsen).

1898. **Polyporus odoratus** Fries S. M. I [373], R 02 a [382], Syn: Trametes odorata Fries Syll. VI [345], Pude-Poresvamp (R 04 a [85]).

The strange conidial stage called Ptychogaster albus Corda, Ceriomyces albus (Cda.) Sacc., Syll. VI [388], Polyporus ptychogaster Ludwig,

Syll. VI [117], Oligoporus ustilaginoides Brefeld (see E. & P. 00 [196]) often occurs on old stumps of Picea and Pinus. It cannot as stated by Quélet (88 [379]), correspond to Daedalea borealis, or, as stated by v. Höhnel (11 a), to Polyporus albidus Trog, the former not having been found in Denmark, the latter only once. I consider it to correspond to Polyporus odoratus as both occur on the same substratum and are equally common. The chlamydospores of Ptychogaster are yellow, oval, 5—7,5 μ × 3,5—4,5 μ (Raunkiær).

Common on stumps of *Abies, Picea* and *Pinus* all the year round.

1899. **Polyporus cinnabarinus** Fries S. M. I [371], Syn: Trametes cinnab. (Jacquin) Sacc., Syll. VI [353], Kanelfarvet Poresvamp (H. 37 [807]).

Betula alba. J. Hinnerup (P. L. 09 [42]). *Alnus glutinosa.* S. Raavad (O. R.); Falst. Næsgaard Skov!. *Corylus avellana.* Bornholm (P. L.). *Fagus silvatica.* J. Hald Bøgeskov ([24]/5 04!).

1900. **Polyporus Bulliardi** (Fries)!, Syn: Daedalea Bulliardi Fries S. M. I [235], Trametes Bull. Fries Epicr. [491], Syll. VI [337], Boletus suberosus Bulliard, Trametes rubescens Fries S. M. I [339], Trametes rub. (A. & S.) Fries Hym. [594], Syll. VI [337], Daedalea saligna Fries S. M. I [337], Polyporus sal. Fries Epicr. [452], Syll. VI [143].

Horizontal, 12—40 cm across, 2—6 cm thick, corky, semicircular in outline, attached by a broad, thick base, becoming thinner towards the margin, upper surface glabrous, unequal, reddish-brown; annual. Pores varying in form, sometimes elongated as by a true Daedalea, sometimes minute and rounded as by Polyporus.

Salix caprea. J. Krabbesholm Skov!; S. Hornbæk Plantage (Exc. [15]/6 84). *Ulmus campestris.* J. Krabbesholm!.

1901. **Polyporus suaveolens** Fries S. M. I [366], R 02 a [354], Syn: Trametes suav. Fries, Syll. VI [338], Boletus suav. L., Schum. no 1952, Fl. D. tab. 1849, Pilesvampen (Müller 1763 [29]), Sødtlugtende Poresvamp (H. 37 [807]), Vellugtende Rørhat (Viborg 93 [265]), Vellugtende Poresvamp (R 69 [52], 79 [19], 80 a [192]).

Sporidiis piriformibus, curvulis, eguttulatis, hyalinis, 6—9 μ × 3—4 μ (Raunkiær). Formerly it was used as a drug against asthma and consumption (Schum. 26 [682]) under the name of "Violsvamp".

Not uncommon on stems and branches of *Salix alba, cinerea, pentandra, Populus deltoides.*

1902. **Polyporus serialis** Fries S. M. I [370], Syn: Polystictus serialis Fries, Syll. VI [240], Boletus cinereus Schum. no 1966.

Develops best on perpendicular substratum, easily recognizable by its pure, white colour and its various small sporophores only a little projecting and always placed in rows above each other.

Quite common on timber and wood of fir (R 02 a [354]).

1903. **Polyporus subsinuosus** Bresadola, Syn: Trametes sinuosa Bres., Syll. XVII [136].

Pinus silvestris. S. Tisvilde Hegn (July 98).

1904. **Polyporus serpens** (Fries)!, Syn: Trametes serpens Fries S. M. I [340], Syll. VI [355].

On wood of *Quercus robur.* J. Trelde Skov ($^4/_9$ 00).

Daedalea.

1905. **Daedalea unicolor** Fries S. M. I [336], Syll. VI [377], Syn: Sistotrema cinereum Schum. no 1972, Fl. D. tab. 2271 fig. 1, Eenfarvet Labyrintsvamp (H. 37 [803]), Bøgens Labyrintsvamp (R 69 [50]), Graa Labyrintsvamp (R 04 a [86]).

Sporidiis obovatis-oblongis, parum curvatis, hyalinis, 5—7 µ × 3—4 µ (Raunkiær).

Salix caprea. F. Klingstrup. *Fagus silvatica,* common. *Sorbus aucuparia.* S. Zoologisk Have (Frederiksen). *Acer pseudoplatanus.* S. Farum. *Aesculus hippocastanum.* J. Kolding!; S. Fredensborg, Ermelunden (Raunkiær).

1906. **Daedalea quercina** Fries S. M. I [333], Syll. VI [370], Syn: Agaricus querc. L., Müller 1767 [222], Schum. no 1923, Eeg Bladhat (Viborg 93 [262]), Egens Labyrintsvamp (H. 37 [803], R 69 [50], 80 a [186], Sev. P. 95 [78] c. icon. etc.).

Common on timber and stumps of *Quercus robur.*

1907. **Daedalea gibbosa** Fries S. M. I [338], Schum. no 1924, Syn: Trametes gib. (Pers.) Fries, Syll. VI [337], Puklet Labyrintsvamp (H. 37 [804], R 69 [50]), Bøgens Labyrintsvamp (Sev. P. 95 [78], R 02 a [386], 04 a [86]).

Sporidiis ovatis, 4—5 µ × 2,5—3,5 µ (Raunkiær).

On stumps of *Fagus silvatica* common. *Populus.* S. Sorø. *Aesculus hippocastanum.* F. Glorup (Lyman).

Lenzites.

1908. **Lenzites abietina** Fries Epicr. [407], Syll. V [640], Syn: Daedalea ab. Fries S. M. I [334], Granens Korkhat (R 04 a [87]).

Quite common on wood of *Picea excelsa* & *alba,* recorded from J. Silkeborg Østerskov ($^{19}/_6$ 83); S. Marianelund (V. A. P.), Bregnerød (H. M.), København (W. Bremer), Slotsbjergby (Raunkiær).

1909. **Lenzites albida** Fries S. M. I [338], Syll. V [637].

S. Gurre Vang (O. R.), Herlufsholm (Octob. 80 O. R.).

1910. **Lenzites betulina** Fries Epicr. [405], Syll. V [638], Syn: Agaricus bet. L., Müller 67 [222], Daedalea betulina (L.) Fries S. M. I [335], Daedalea ferruginea Schum. no 1925, Fries Hym. [589], Fl. D. tab. 1555 & 2029,

Birke-Bladhat (Viborg 93 [262]), Birkens Labyrintsvamp (H. 37 [803], R 69 [50]), Birkens Korkhat (R 04 a [87]).

Sporidiis oblongis, parum curvatis, hyalinis, 4—7 μ × 2—3 μ (Raunkiær).

On stumps of *Fagus silvatica*. J. Addit Skov, Silkeborg!; S. common. On timber of *Quercus robur*. S. Wilders Plads (Weismann).

1911. **Lenzites sepiaria** Fries Epicr. [407], Syll. V [639], Syn: Daedalea sepiaria Fries S. M. I [333], Gjerde-Labyrintsvamp (H. 37 [803]), Fyrrens Korkhat (R 02 a [386] c. icon., 04 a [87]).

Common on wood and timber of *Picea* and *Pinus*.

Fistulina.

1912. **Fistulina hepatica** Fries S. M. I [396], Syll. VI [54], Syn: Boletus buglossus Retz, Fl. D. tab. 1136 & 1137, Leverfarvet Pibesvamp (H. 37 [811]), Levret Tungesvamp (R 69 [54], Liisberg 75 [70]), Oksetungesvamp (Sev. P. 95 [80], R 02 a [384]), Lit: R 80 a [185].

Quercus robur. J. Livø!, Hobro (Nicoline Mørch), Hinnerup Skov & Riis Skov (P. L. 09 [38]); F. "Kammerherrens Eg" near Ravnholt (Mørk Hansen); S. Tisvilde (Exc. 2/10 98), Jægerspris Kongeeg (Exc. 14/9 79), Djævleegen near Jonstrup Vang, Farum, Charlottenlund (Betty Rostrup), København (on timber, Weismann), Køge Aas (see Ø. W. 09); L. Hardenberg, Falkeegen near Christianssæde, Fuglsang and many other places. *Castanea vesca*. S. Charlottenlund (R 05 b [309]).

Boletus.

1913. **Boletus luteus** Fries S. M. I [386], Syll. VI [3], Bol. annulatus Schum. no 1926, Bol. granulatus Fries S. M. I [387], Syll. VI [5] (see v. Höhnel 05 [548]), Kornet Rørhat (Viborg 93 [264]), Guul Rørsvamp (Viborg 93 [263], H. 37 [809]), Mørkegul Rørhat (Sev. P. 95 [71] c. icon.), Gul Rørhat (R 69 [49], Liisberg 75 [72]).

Eatable and common in woods, especially fir-woods; recorded for the first time by O. F. Müller 1767 [223].

J. Bordrup Klit, Borris Hede (F. & W. 08 [261]); Fænø: F. common (Jak. Lge); S. Tisvilde, Hornbæk, Teglstrup Hegn (Exc. 24/9 05), Fredriksværk, Brede; B. Hammerhavnen (Lindau 97).

1914. **Boletus elegans** Fries Epicr. [409] & Hym. [497], Syll. VI [3], Schum. no 1928.

This species is not uncommon; it is, however, only found under *Larix decidua*. J., common (P. L. 09 [35]); F., common (Jak. Lge); Lang. Carlseje; S. Hornbæk Plantage (Exc. 28/9 02). Teglstrup Hegn (Exc. 24/9 05), Krogerup Hegn (Exc. 20/9 08), Birkerød (Schum.), Jægersborg Hegn (R 90 n); L. Stensgaard.

1915. **Boletus flavus** Withering, Fries Epicr. [410] & Hym. [497], Syll.VI [4].
S. Tokkekøb Hegn (Exc. 3/10 09), Brede, Boserup (Exc. 4/11 96).

1916. **Boletus flavidus** Fries S. M. I [387], Syll. VI [4].
S. Ruderhegn (Exc. 1/10 99).

1917. **Boletus bovinus** Fries S. M. I [388], Syll. VI [6], Schum. no 1931, Boletus gregarius Vahl, Fl. D. tab. 1018, Klynge-Rørhat (Viborg 93 [263]), Kvæg-Rørhat (Viborg 93 [263], Schade 11), Koe-Rørsvamp (H. 37 [809]), Grovporet Rørhat (R 04 a [78] c. icon.).
Quite common in woods of *Pinus silvestris* & *montana*. J. Nykøbing (Schade 11), Bordrup Klit, Margrethelund!, Feldborg, Stendalsgaard; F., common (Jak. Lge); S. Hornbæk Plantage (Exc. 28/9 02), Fredriksdal (Müller 1767 [223]) etc.

1918. **Boletus mitis** Krombholtz, Fries Hym. [499], Syll. VI [6].
S. Jonstrup Vang (Exc. 13/9 03).

1919. **Boletus badius** Fries S. M. I [392], Syll. VI [7].
Accidentally found in fir-woods. J. (P. L. 09 [35]); F. (Jak. Lge); S. Krogenborg Hegn (Exc. 20/9 08, Brede).

1920. **Boletus sanguineus** Fries S. M. I [390], Syll. VI [8].
F. Skaarup (15/9 72).

1921. **Boletus piperatus** Fries S. M. I [388], Syll. VI [8], Pebret Rørsvamp (H. 37 [810]).
J., common in calluneta (P. L. 09 [35]), Borris Hede (F. & W. 08 [261]); F. quite common (Jak. Lge); S. Brede etc.

1922. **Boletus variegatus** Fries S. M. I [388], Syll. VI [12], Broget Rørsvamp (H. 37 [810]).
On sandy ground and in pineta. J. Rold Skov (Jak. Lge), Hinnerup & Friisenborg (P. L. 09 [35]), Borris Hede (F. & W. 08 [261]); S. Tisvilde (Exc. 2/10 98), Hornbæk Plantage (Exc. 28/9 02), Krogenborg Hegn (Exc. 20/9 85), Ravnholt Hegn (R 93 e), Ruderhegn (Exc. 1/10 99).

1923. **Boletus chrysenteron** Fries Hym. [502], Syll. VI [14], Schum. no 1932.
Quite common in fagineta. J. (P. L. 09 [35]); F. (Jak. Lge); S. Brede; L. Stensgaard etc.

1924. **Boletus subtomentosus** Fries S. M. I [389], Schum. no 1931, Filtagtig Rørhat (Viborg), Svagtfiltet Rørsvamp (H. 37 [810]), Filtet Rørhat (R 69 [49], 04 a [78], Sev. P. 95 [74] c. icon.).
Very common, recorded from J., Fænø, F., Lang., S., Møen etc.

1925. **Boletus spadiceus** Fries Epicr. [415], Syll. VI [15].
F. Hjallese (Jak. Lge); S. Krogerup Hegn (Exc. 20/9 85).

1926. **Boletus hieroglyphicus** Rostk., Syll. VI [48].
S. Brede Bakke (Exc. [24]/9 93).

1927. **Boletus radicans** Fries S. M. I [390], Syll. VI [19].
S. Krogenborg Hegn (Exc. [20]/9 85), Geel Skov (R 89 h).

1928. **Boletus pruinatus** Fries Epicr. [414].
F. Hjallese (Jak. Lge).

1929. **Boletus parasiticus** Fries S. M. I [389], Syll. VI [22].
Aug.—Nov. On *Scleroderma aurantium*. Pers. J. Silkeborg Nordskov (P. L.), Silkeborg Langsø (Sev. P.); S. Kagerup (Jac. Hartz), Ravnholt Hegn ([19]/9 97 Raunkiær see R 99 a [260]), Hareskoven (Mundt).

1930. **Boletus calopus** Fries S. M. I [390], Syll. VI [24].
S. Marselisborg (P. L. 09 [35]); S. Teglstrup Hegn (Exc. [24]/9 05), Boserup (Exc. [4]/11 96).

1931. **Boletus pachypus** Fries S. M. I [390], Syll. VI [24].
J., common in woods (P. L. 09 [35]); Fænø; F., occasionally (Jak. Lge); S. Ravnholt Hegn (R 93 e); L. Stensgaard.

1932. **Boletus edulis** Fries S. M. I [392], Syll. VI [29], Syn: Bol. crassipes Schum. no 1936, Spiselig Rørhat (R 69 [48], Liisberg 75 [71] c. icon., Sev. P. 95 [72]), Lit: Müller 1763 c. icon.
Very common, especially in fagineta.

1933. **Boletus aereus** Fries S. M. I [393], Syll. VI [29].
J. Marselisborg Skov (P. L. 09 [35]).

1934. **Boletus luridus** Fries S. M. I [391], Syll. VI [34], Syn: Bol. tuberosus Schum. no 1934, Fl. D. tab. 1962, Guulbleg Rørsvamp (H. 37 [810]), Indigo-Rørhat (R 69 [49], 04 a [77], Sev. P. 95 [73]).
Common in woods.

1935. **Boletus erythropus** Fries S. M. I [391], Syll. VI [35].
S. Brede.

1936. **Boletus sordarius** Fries Epicr. [419], Syll. VI [35], Fl. D. tab. 1296.
S. Soro.

1937. **Boletus strobilaceus** Fries El. I [127], Syn: Strobilomyces strob. Berk., Syll. VI [49], Fnugskællet Rørhat (Sev. P. 95 [72]), Skællet Rørhat (R 04 a [77] c. icon.).
Quite common, recorded from J. Aarhus (P. L. 09 [43]), Tirsbæk; F. occasionally (Jak. Lge); S. Ravnholt Hegn (R 93 e), Krogenborg (Exc. [20]/9 08), Nørreskov (Exc. [19]/10 85), Geel Skov (R 89 h), Jægersborg (R 90 n & Plowright 88), Billesborg, Hæsede Rende, Næsbyholm; L. Hardenberg (Bornebusch); Falst. Hanenov.

1938. **Boletus floccopus** Fries S. M. I [393], Schum. no 1929, Fl. D. tab. 1252, Syn: Strobilomyces flocc. Vahl, Syll. VI [50].
Found in fagineta near Birkerød and Charlottenlund (Schumacher).

1939. **Boletus porphyrosporus** Fries Epicr. [423], Syll. VI [38].
J. Common in fagineta near Aarhus (P. L.).

1940. **Boletus versipellis** Fries Epicr. [424], Syll. VI [40], Syn: Bol. rufus Schaeffer, Skælstokket Rørsvamp.
Aug.—Oct. Not uncommon, J. Aarhus (P. L. 09 [35]), Borris (F. & W. 08); F. Dalum (Jak. Lge), Glorup, Holmdrup, Vejstrup; S. Bøndernes Hegn (R 92 i).

1941. **Boletus scaber** Fries S. M. I [293], Syll. VI [41], Rue Rørsvamp (H. 37 [811]), Rufodet Rørhat (R 69 [49], 04 a [77], Sev. P. 95 [72] c. icon.).
Eatable. Common in the forests, especially in Betuleta. J. (P. L. 09 [35]); S. Tisvilde (Exc. 2/10 98), Teglstrup Hegn (Exc. 24/9 05), Fredriksværk, Gurre (Exc. 20/9 08), Brede, Køge Aas (Ø. W.), Hvalsølille Sø (Rützou); L. Stenskov.

1942. **Boletus felleus** Fries S. M. I [394], Syll. VI [43], Schroeter 89 [497], Syn: Tylopilus fel. (Bull.) Karsten.
In fir-woods, occasionally. J. (P. L. 09 [35]); F. Fredriksgave (Jak. Lge), Svenborg (19/7 70); S. Fredriksværk, Jonstrup Vang (Exc. 19/9 03), Fredriksdal (R 92 i & Plowright 88).

1943. **Boletus cyanescens** Fries S. M. I [395], Syll. VI [44], Syn: Suillus cyan. (Bull.) Schroeter 89 [496].
J. Friisenborg, Marselisborg, Skanderborg Dyrehave (P. L. 09 [35]); F. Fredriksgave (Jak. Lge); S. Arresødal Skov, Slagslunde Skov (Exc. 6/10 07).

1944. **Boletus castaneus** Fries S. M. I [392], Schum. no 1935, Fl. D. tab. 1792, Syll. VI [45], Kastaniefarvet Rørsvamp (H. 37 [810]).
Eatable (Schroeter 89 [496]). July—Sept. J. Friisenborg & Marselisborg (P. L.); F. Vejstrup Fredskov; S. (Schum.).

1945. **Boletus fulvidus** Fries S. M. I [395], Syll. VI [45].
J. Marselisborg Skov (1908 Mrs. Høegh-Guldberg see P. L. 09 [35]).

Boletinus.

1946. **Boletinus cavipes** Opatowsky, Syll. VI [51].
J. Silkeborg Nordskov (P. L.); S. Teglstrup Hegn (Exc. 24/9 05), Grib Skov (Joh. Lge); B. Pyllekyllekjær (12/9 90 see R 92 g [73]).

Gasteromycetes.

Phallineae.

Phallus.

1947. **Phallus impudicus** Pers. Syn. [242], Schum. no 1615, Fl. D. tab. 175, Syn: Ithyphallus imp. (L.) Fries, Syll. VII [8], Rødme-Morkel (Viborg 93 [267]), Morkelagtig Stinksvamp (H. 37 [852]), Stor Stinksvamp (Sev. P. 95 [94] c. icon.), Almindelig Stinksvamp (R 69 [34], 04 a [147] c. icon.), Lit: R 75 [17], Müller 1767, Kylling 1688 [50] ("Fungus foetidus penis imaginem referens").

Common in forests, Aug.—September.

1948. **Phallus impudicus** var: **iosmos** Berk., Syll. VII [9].

J. In the dunes near Gl. Skagen (1889 J. C. Bang again [18/9] 91 R. Jeckel).

1949. **Phallus caninus** Pers. Syn. [245], Schum. no 1616, Fl. D. tab. 1259, Syn: Mutinus can. (Hudson) Fries, Syll. VII [12], Graa Stinksvamp (H. 37 [852]), Liden Stinksvamp (R 69 [34], Sev. P. 95 [95]).

Quite common in forests, August —Octob. J. Aarhus (P. L. 09 [41]), Munkebjerg (Exc. [25/7] 88); S. common; L. Søllestedskov.

Hymenogastrineae.

Hysterangium.

1950. **Hysterangium stoloniferum** Tulasne, Syll. VII [157], Wt. I [879], Th. Fries 1909 [281].

S. Hulsø (May 90 Jonatan Lange see R 92 g [73]); Møens Klinteskov near Taleren ([24/6] 93 see R 95 a [206]).

Hymenogaster.

1951. **Hymenogaster vulgaris** Tulasne, Syll. VII [175], Th. Fries 09 [276].

S. Lerchenborg in pinetum ([30/12] 84 Chr. Pedersen see R 85 f).

Octaviania.

1952. **Octaviania asterosperma** Vittadini, Syll. VII [159], Th. Fries 09 [272].

J. Munkebjerg (1888 Hjalmar Jensen); Møen Liselund ([25/8] 00 Fr. Rosenkrantz see R 05 b [309]).

Lycoperdineae.

Lycoperdon.

1953. **Lycoperdon cyathiforme** Bosc., Syll. VII [123] [477], Syn: Calvatia cyat. (Bosc.) Morgan, see C. Ferdinandsen 10 [142].

Quite common. Recorded from J. Skagen, Borris (C. F.), Esbjerg; F. Hals (Exc. 5/8 95 called "Lycoperdon favosum"); S. Charlottenlund.

1954. **Lycoperdon caelatum** Bulliard, Syll. VII [115], Syn: Lycop. bovista Pers., Syn. [141] non L., Lycop. favosum (Rostk.) Bon., Lycop. papillatum Schum. no 1403, Calvatia caelata Morgan, Graveret Støvbold (H. 37 [877]), Ulfvefiis seu Crepitus lupi (Schum. 1808 [23], 26 [678]).

It is a common superstition that the ripe spores may cause blindness if they enter the eyes, for this reason this fungus is also in Danish called "Blindesvamp" (blinding fungus, R 75 [18]). The sterile bases which remain when the spores are blown away are used as a remedy for staunching of blood (see Schum. 08 [23] & 26 [678]); no doubt it is this sterile base which Kylling (1688 [50]) calls: "Fungus calicaris major, grey, big fungus like a cup".

Common on sandy fields. June—August.

1955. **Lycoperdon echinatum** Pers. Syn. [147], Syll. VII [107], Schum. no 1399, Pindsvine-Støvbold (R 69 [33], 04 a [151], Sev. P. 95 [97] c. icon.).

Common in woods.

1956. **Lycoperdon constellatum** Fries S. M. III [39], Syll. VII [127], Wt. I [906], Syn: Lycop. umbrinum Fl. D. tab. 1800, Stjernet Støvbold (H. 37 [877]), Lit: Lloyd 05 [168], 08 [222].

Occasionally found in woods. August—October. For instance: F. Elvedgaard; S. Ruderhegn (R 84 g [78]), Boserup (E. W.), Basnæs (abundantly P. N. 77 c. [327]); Møens Klint (E. W.).

1957. **Lycoperdon piriforme** Pers. Syn. [148], Syll. VII [117], Schum. no 1398, Fl. D. tab. 1680, R 02 a [414], Dobbelt Ulvefiis (Kylling 1688 [51]), Pære-Støvbold (R 69 [34], Sev. P. 95 [97]), Pæreformet Støvbold (R 04 a [151]).

Very common on old stumps.

1958. **Lycoperdon Cookei** Massee, Syll. VII [481].

J. In the callunetum near Viborg (! Octob. 03 see Lloyd 08 [216] tab. 54).

1959. **Lycoperdon saccatum** Haller, Syll. VII [128], Schum. no 1395, Fl. D. tab. 1139, Sækformig Støvbold (H. 37 [877]).

Quite common on sandy ground, August—Novemb.; noticed from J. Marselisborg Skov (P. L. 09 [38]), Borris Hede (F. & W. 08 [26]); F. Lundeborg, Skaarup; S. Jonstrup (H. M.), Geelskov, Brede, Slotsbjergby (Sev. P.); B. Blykobbe (R 06 dd).

1960. **Lycoperdon uteriforme** Pers. Syn. [143], Syll. VII [129].
S. Holsteinborg (Svendsen [28/9] 01).

1961. **Lycoperdon candidum** Pers. Syn. [146], Syn: Lycop. gemmatum Batsch, Syll. VII [106], Schum. no 1396, Fl. D. tab. 1140, Liden Ulffvefiis (Kylling 1684, 1688 [50]), Krystal-Støvbold (H. 37 [877], R 69 [33], 04 a [151] c. icon., Sev. P. 95 [97]).
Common in fagineta etc. August—November.

1962. **Lycoperdon pratense** Pers. Syn. [142], Schum. no 1401, Syn: Lycop. pusillum Batsch, Lycop. furfuraceum Schaeffer, Syll. VII [110], Globaria furf. Schroeter 89 [699], Liden Støvbold (H. 37 [877]), Dværg-Støvbold (R 69 [33]).
On sandy fields etc. J. Borris Hede (F. & W. 08); Strynø; S. Jonstrup Vang (H. M.); Møens Klinteskov; B. Hammershus (Lindau 97).

Bovista.

1963. **Bovista echinella** Boudier, Syll. XI [164], Lit: Rob. E. Fries 09 [176] c. icon. & 10 [98].
S. Ordrup (A. Breitung see Lloyd 08 [262]).

1964. **Bovista plumbea** Pers. Syn. [137], Syll. VII [96], Almindelig Kuglebold (Sev. P. 95 [99] c. icon.).
Common on sandy fields near the coast (E. W. 06 [89]) and in the downs.

1965. **Bovista nigrescens** Pers. Syn. [136], Syll. VII [99], Syn: Lycoperdon nigr. (Pers.) Vittadini, Sortagtig Støvbold (R 04 a [150]).
Quite common on the same localities as no 1964 recorded from J., Læsø, S., Am., L.

1966. **Bovista tunicata** Fries S. M. III [25], Syll. VII [98].
J. Glatved (Aug. 86 Schiøtz).

1967. **Bovista gigantea** (Pers.) Nees, Syn: Lycoperdon giganteum Pers. Syn. [140], Schroeter 89 [699], Lycop. bovista L., Syll. VII [109—481], Schum. no 1397, Fl. D. tab. 1920, Globaria bovista Quélet, Kæmpe-Bovist, Ulvefis, Fæsebolder, Fosbold, Troldskum (Jenssen-Tusch 67 [137]), Bovist-Støvbold (Schade 11 [166]), Stor Støvbold (H. 37 [876]), Kæmpe-Støvbold (R 69 [33], Sev. P. 95 [88] c. icon.).
The giant puff-ball has always caused great interest on account of its size and its quick growth. In its young and pulpy condition this Lycoperdon is excellent food, and during the reign of King Christian VIII a regular cultivation of it was indeed in contemplation (see R 75). It occurs in wet autumns and appears every year in the same place (see R 79 [12], P. N. 73 a [88]). One specimen of the giant puff-ball,

contained in the Botanical Museum, weighed in fresh condition 5750 grammes had a circumference of 136 cm and a height of 35 cm, another specimen found in 1905 by Her Royal Highness Princess Marie in Bernstorff Park is still larger (see also Bergius 1762 and Anonym 82 [474]). P. Magnus mentions (91 [49]) a specimen weighing 6,5 kg. Old specimens of this fungus have a long-established reputation for the staunching of blood (see Olav Borch: Usus plant. indig. in Medicina).

Common, Aug.—Sept., in pastures etc., also near the sea (see E. W. 06 [226]) and in Ericeta (Schum.).

Geaster.

1968. **Geaster pectinatus** Pers. Syn. [132], Syn: Geast. Bryantii Berk., Syll. VII [75], Stilket Stjernebold (R 04 a [148] c. icon.).

In fir-woods. J. Skagen (P. L.), Sorvad (Chr. Hartz), Vænge (P. L.); F. Holstenshus (Sev. P.); S. Tisvilde, Hornbæk Plantage (R 05 b [309]), Ravnholt (R 93 e), Hareskov (Ottesen), Tølløse (Aksel Hansen), Herlufsholm (Ingerslev).

1969. **Geaster tenuipes** Berkeley, Syll. VII [76].

S. Aunstrupgaard ([26]/10 C. Jensen).

1970. **Geaster fimbriatus** Fries S. M. III [16], Syll. VII [82], Fl. D. tab. 360, Fryndset Stjernebold (R 04 a [149]).

February—July. F. Vejstrup Aaskov (R 79 [23]). S. Ermelunden, Asnæs (O. Smith), Holsteinborg (Helge Svendsen), Herlufsholm: L. Stensgaard; Falst. Liselund; Møens Klint (H. M.).

1971. **Geaster mammosum** Chev., Syll. VII [85].

S. Dronninggaard (O. R.), Asnæs Forskov, Sorø Akademiehave ([2]/9 73 Thomsen); L. Stensgaard (Asta R.).

1972. **Geaster fornicatus** (Hudson) Fries S. M. III [12], Syll. VII [73], Port-Stjernebold (Sev. P. 95 [100] c. icon.), Portformig Stjernebold (R 69 [32]).

In fir-woods, not uncommon, Sept.—Nov. J. Gadehusene (Ottesen), Marselisborg (P. L. 09 [38]); F. Kristineberg Storskov, Skaarup; S. Tokkekøb Hegn (R 93 e), St. Hareskov (H. M.), Svenstrup (R 97 n), Bjernede Skov (Th. Leth), Asnæs Skov, Køge Aas, Karise (V. A. P.), Næstved (P. N. 77 c [327]): L. Engestofte ([1]/10 1863 V. Wickfeld).

1973. **Geaster radicans** Berk. & Curtis, Syll. VII [74].

S. Nørager (Moltke. New for Europe).

1974. **Geaster striatus** (de C.) Fries S. M. III [13], Syll. VII [77], Fl. D. tab. 360, Tandet Stjernekugle (H. 37 [876]), Stribet Stjernebold (R 04 a [149]).

Thorseng. Bregninge Bakke; S. Eskebjerg Skov (Chr. Mortensen), Herlufsholm (Ingerslev).

1975. **Geaster limbatus** Fries S. M. III [15], Syll. VII [81].

In fir-woods. S. Arresødal, Jægerspris (V. A. P.), Boserup (Thomsen 73 again Jac. Hartz 00), Kalundborg (O. Smith), Herlufsholm (Ingerslev), Vintersbølle (Exc. 7/10 00).

1976. **Geaster triplex** Jungh., Syll. VII [74].

Sept.—Oct. S. Ruderhegn (P. N.), Stadsevang (9/10 05 H. Andersen see L. K. R. 06), Charlottenlund (Breitung), Boserup Skov (Jac. Hartz), Asnæs Forskov (O. Smith); L. Stensgaard; Falst. Liselund.

1977. **Geaster rufescens** Pers. Syn. [134], Syll. VII [88], Fl. D. tab. 1433,

S. Boserup Skov (Exc. 2/10 87 again 97 O. R.), Sorø ("in sylva prope Sorøe invenerunt amici et scrutatores naturae eximie J. Rathke et Hofman Bang". Hornemann in Fl. D.); L. Bøgbølle Sø (A. Bruun); Møen between Taleren and Nylands Nakke (Exc. 2/8 73).

Nidulariineae.

Nidularia.

1978. **Nidularia farcta** (Pers.) Fries, Syll. VII [29], Syn: Cyathus farctus Pers. Syn. [239], Cyathus scutellaris Pers. Syn. [239], Schum. no 1610, Syll. VII [42], Peziza scut. Fl. D. tab. 780 fig. 2, Nidularia radicata Fries, Nid. pisiformis (Roth) Tulasne, Syll. VII [32] & var. Broomei Sacc., Syll. IX [265], Nid. pulvinata Fries, Syll. VII [32], Nid. confluens Fries, Syll. VII [29], Nid. denudata Fries, Syll. VII [31], Nid. corrugata (Wallr.) Tul., Syll. VII [30], Nid. globosa Fries, Syll. VII [31], Nid. Berkeleyi Massee, Syll. IX [265], Nid. granulifera Holmskj. 99 [11] tab. IV, Syll. VII [30] (see Lloyd 08), Flad Skaallille, Kornet Frørede (Holmskj.), Skjoldformet, Kornbærende & Fyldt Redesvamp (H. 37 [853]).

On decayed timber. J. Borrevold (10/11 85 Gad again 10/3 04!, Exs. Jaap no 68, see R 05 b [309]), Bruunshaab!.

Crucibulum.

1979. **Crucibulum vulgare** Tulasne, Syll. VII [43], Fl. D. tab. 1490 fig. 1, Syn: Cyathus crucibulum Pers. Syn. [238], Schum. no 1611, Cyat. scutellaris Schum. no 1610, Peziza lentifera Oeder Fl. D. tab. 105, Nidularia laevis Holmskj. 99 [3] tab. 1, Nid. crucibulum Fries, Glat Frørede (Holmskj.), Glat Redesvamp (H. 37 [853]), Kornskjeppe (Jenssen-Tusch 67 [164]), Alm. Krukkerede (Sev. P. 95 [103]), Krukke-Redesvamp (R 02 a [414], 04 a [152] c. icon.), Klokke-Redesvamp (R 69 [32]).

Common on fallen twigs, decayed timber etc., Aug.—Sept.

Cyathus.

1980. **Cyathus olla** Pers. Syn. [237], Schum. no 1613, Peziza lentifera L., Fl. D. tab. 105 & tab. 469 fig. 1, Müller 1767 [225], Funguli caliciformes seminiferi (Kylling 1688 [51]), Cyathus campanulatus Sibt., Nidularia camp. Holmskj. 99 [8] tab. III, Peziza sericea Müller Fl. D. tab. 780 fig. 1, Cyathus nitidus Schum. no 1614, Cyat. vernicosus (Bull.) de Cand., Syll. VII [38], Linse Skaallille (Viborg 93 [270]), Klokkeformig Redesvamp (H. 37 [853], R 75 [19]), Glat Bægerrede (Sev. P. 95 [103] c. icon.), Klokke-Redesvamp (R 04 a [152] c. icon.).

Common on rich soil, June—Nov.

1981. **Cyathus striatus** Pers. Syn. [237], Syll. VII [33], Schum. no 1612, Syn: Nidularia striata Holmskjold 99 [5] tab. II, Stribet Bægerrede (Sev. P. 95 [102] c. icon.), Stribet Redesvamp (H. 37 [852], R 69 [32], 04 a [152] c. icon.).

On the ground and decaying wood, Aug.—Nov.

Plectobasidiineae.

Melanogaster.

1982. **Melanogaster ambiguus** (Vittadini) Tulasne, Syll. VII [165], Th. Fries 09 [293].

Fænø Espenhoved (Aug. 89 see R 90 o [138] & 92 g [73]); S. Ruderhegn (Brusendorf); Møen Klinteskov (Aug. 01 see R 05 b [309]).

1983. **Melanogaster tuberiformis** Corda, Syll. VII [166], Th. Fries 09 [293].

J. Petersdal near Viborg ($^{7}/_{9}$ 92 Gad).

1984. **Melanogaster variegatus** (Vittadini) Tulasne, Syll. VII [165], Th. Fries 09 [291].

S. Landbohøjskolens Have ($^{25}/_{7}$ 87 A. Bruun see R 88 c).

Scleroderma.

1985. **Scleroderma bovista** Fries S. M. III [48], Syll. VIII [135].

F. Skaarup; S. Herlufsholm (O. R.); Møen Liselund ($^{17}/_{8}$ 88).

1986. **Scleroderma verrucosum** Pers. Syn. [154], Syll. VII [136].

J. Viborg!; F. Odense (P. A. Kristensen); S. Jonstrup Vang (H. M.).

1987. **Scleroderma aurantium** Pers. Syn. [153], Syn: Sclerod. citrinum Pers. Syn. [153], Scler. vulgare Fries Fl. D. tab. 1969 fig. 2 & S. M. III [46], Th. Fries 09 [294], Syll. VII [134], Lycoperdon tesselatum Schum. no

1402, Pomerantz-Støvbold (Viborg 93 [273]), Alm. Stivsvøb (H. 37), Alm. Bruskbold (R 69 [34], Sev. P. 95 [101] c. icon.).

This fungus which is often considered uneatable and even poisonous has, however, often been gathered and eaten by a Copenhagen family who believed it to be genuine truffles (see R 92 g [73] & 93 l). Th. Fries (09 [294]) also mentions that it is eaten in Norway under the name of "Norwegian truffles".

Common. July—Sept.

Tulostoma.

1988. **Tulostoma brumale** Pers. Syn. [139], Fl. D. tab. 1740 fig. 1, Tul. mammosum (Michel) Fries, Syll. VII [60], Tulasnodea mam. Fries, Lange 87, Vortet Bruskmund (H. 37 [878]).

J. In the downs near Hirtshals ([17/5] 02 L. K. R. see R 05 b [309]), Kjul Aa!; S. Charlottenlund (Beck see Fl. D.), Herlufsholm (Ingerslev & O. R.).

Sphaerobolus.

1989. **Sphaerobolus stellatus** Pers. Syn. [115], Syll. VII [46], Syn: Lycoperdon carpobolus L., Fl. D. tab. 895, Schum. no 1394, Müller 1775, Sphaerobolus carp. (L.) Schroeter, Bombe-Støvbold (Viborg 1793 [274]), Stjerneformig Kuglekaster (H. 37 [854]), Stjerneformig Bombekaster (R 69 [32], 02 a [414], 04 a [147]).

Quite common on decaying wood, old lumps etc. July—Dec.

Fungi imperfecti.

It is still more the case with this division of the fungi than with the preceding divisions that the stated finding-places are no precise expressions for their distribution. The greater number of Fungi imperfecti are so common that they may always be found where the outer circumstances are favourable to them.

Sphaeropsidales.
Sphaerioidaceae-Hyalosporae.
Phyllosticta.

Saccardo and Allescher do not agree as to how to distinguish between the two formgenera of Phyllosticta and Phoma. Saccardo calls all the spot-forming species Phyllosticta and those occurring on dead substratum Phoma. Allescher only considers the circumstance whether the fungus occur on the leaves or not; I must agree with Saccardo and classify all the parasitical forms as Phyllosticta and the saprophytical ones as Phoma.

The formgenus of Phyllosticta is very closely allied to that of Phoma, both are represented in Denmark by numerous species. Phyllosticta causes rather much damage by attacking living vegetable substances, Phoma is of less significance. The life-cycles of all these genera have been very little investigated, several of them are able to regenerate themselves during the whole year, and possibly they may not produce other stages. Other species are known to correspond to Ascomycetes, and the same ascigerous fungus is often provided with two different conidial stages either a hyphomycetous stage and Phyllosticta or a short-spored and a long-spored form both of the type of Sphaeropsidales.

Phyllosticta	vulgaris	corresponds to	Mycosphaerella clymenia (see Saccardo).
—	arunci	—	— Dejaniza (see Saccardo).
—	ligustri	—	— ligustri (see Saccardo).
—	farfarae	—	— picridis.
—	evonymae	—	— evonymi.
—	laureolae	—	— laureolae.
—	fraxinicola	—	— fraxini (see Scalia).
—	stemmatea	—	— stemmatea (see Karsten).
—	Beijerinckii	—	Ascospora Beijerinckii (see Vuillemin).
—	helvetica	—	Leptosphaeria helvetica (see Saccardo).
—	ruscicola	—	— rusci.
—	sphyridiana	—	— sphyridiana (see Jaap).

1990. **Phyllosticta palmarum** Rabenh., Syll. III [65].
Chamodorea lanata. S. Botanisk Have (R 02 a [563], 03 q).

1991. **Phyllosticta potamogetonis** Rostrup 97 m [48], Syll. XIV, All. VII [776].
Macula epiphylla, lata, irregulares, brunnea, dein cinerea, fusco-marginata; perithecia sparsa, minuta, epidermide velata; sporae oblongatae, longit 6 μ crassit 2 μ.
Potamogeton polygonifolius. J. Between Sæby and Sulbæk. 3/8 96.

1992. **Phyllosticta alismatis** Sacc., Syll. III [60], All. VI [157].
It is to be sure an autonomous species and not — as Setchel 92 proposes — to be united with Doassansia alismatis.
On the leaves of *Alisma plantago*, common, July—Sept.

1993. **Phyllosticta typhina** Sacc. & Malbr., Syll. III [60], All. VI [165].
On leaves of *Typha latifolia*. J. Viborg!, Odder!; F. Aabymark.

1994. **Phyllosticta cruenta** (Fries) Kickx, Syll. III [58], All. VI [161] & [349].
On leaves of *Polygonatum multiflorum*. J. Utoft Plantage; S. Jonstrup Vang (5/7 90).

1995. **Phyllosticta salicicola** Thümen, Syll. X [119], All. VI [86], R 02 a [563].

Salix amygdalina. J. Lerbæk!, Dvergetved (V. S.), Hjørring!. *Salix cinerea*. F. Skaarup.

1996. **Phyllosticta populina** Sacc., Syll. III [33], All. VI [68], R 02 a [563].
Populus pyramidalis. J. Skive!; Falst. Stubbekøbing.

1997. **Phyllosticta quercus-ilicis** Sacc., Syll. III [35], All. VI [75].
Quercus ilex. S. Landbohøjskolens Have.

1998. **Phyllosticta maculiformis** Sacc., Syll. III [35], All. VI [29].
Castanea vesca. S. Marianelund, Dronninggaard.

1999. **Phyllosticta destruens** Desm., Syll. III [31], All. VI [30].
Celtis australis. S. København [11/8 97]. *Celtis glabrata*. S. Landbohøjskolens Have.

2000. **Phyllosticta lychnidis** (Fries)!, Syn: Depazea lych. Fries Myc. Hefte II [53], S. M. II [531], Syll. III [62].
Maculis indeterminatis, albicantibus; peritheciis hemisphaericis, prominulis, minutis, contextu fuligineo, parenchymatico. Sporulis cylindraceo-fusiformibus, hyalinis, 5—6 μ × 1 μ.
On living leaves of *Melandrium noctiflorum*. S. Glostrup [3/9 88].

2001. **Phyllosticta polygonorum** Sacc., Syll. III [54], All. VI [141], R 02 a [563].
Polygonum fagopyrum. S. Lyngby (K. H.).

2002. **Phyllosticta nebulosa** Sacc., Syll. III [43], All. VI [147].
Silene armeria. S. Lyngby (K. H.).

2003. **Phyllosticta betae** Ouds, Syll. III [54], All. VI [105], R 93 d [118], 01 a [119], 02 a [563], Hjærteforraadnelse (R 03 d [368], M. L. M. 08 [152]).
On the leaves of *Beta maritima*. S. Havnsø (Th. Leth). *Beta sativa*. J., F., S., L. Common.

2004. **Phyllosticta baldensis** Massal., Syll. X [126], All. VI [135].
Paeonia officinalis. J. Horsens [20/10 01!].

2005. **Phyllosticta corrodens** Passerini, Syll. X [125], All. VI [113].
Clematis cult. J. Brabrand [3/8 09!].

2006. **Phyllosticta berberidis** Rabenh., Syll. III [26], All. VI [23].
Berberis vulgaris. S. Næsbyholm.

2007. **Phyllosticta mahoniae** Sacc. & Speg., Syll. III [25], All. VI [57], R 02 a [563].
Mahonia aquifolia. J. Horsens!; L. Stensgaard, Banholm [13/9 94].

2008. **Phyllosticta aquifolii** All. VI [57], Syn: Phoma mahoniae Thümen, Syll. III [117].

Mahonia japonica. J. Linaa Vesterskov (23/9 97); S. Fuglebjerg; Falst. Stubbekøbing.

2009. **Phyllosticta calycanthi** Sacc. & Speg., Syll. III [9], All. VI [26], R 02 a [563].
Calycanthus orientalis (hosp. nov.). S. Landbohøjskolens Have (25/9 99).

2010. **Phyllosticta camelliae** West., Syll. III [25], All. VI [26 344].
Camellia cult. J. Nykøbing (P. Larsen see R 91 d).

2011. **Phyllosticta tiliae** Sacc. & Speg., Syll. III [27], All. VI [92], R 02 a [563].
Tilia platyphylla. L. Fuglsang Storskov (21/7 98 see R 99 b).

2012. **Phyllosticta althaeina** Sacc., Syll. III [40], All. VI [100].
Althaea rosea. S. Landbohøjskolens Have.

2013. **Phyllosticta rhois** West., Syll. III [17], All. VI [81], R 02 a [563].
Rhus cotinus. S. Landbohøjskolens Have.

2014. **Phyllosticta ricini** Rostrup 99 a [266] & 02 a [563], Syll. XVI [843], All. VII [778].
Maculis subcircularibus, arescendo stramineis, purpureo-cinctis, amphigenis, serialiter dispositis; peritheciis paucis, punctiformibus; conidiis ellipsoideis, longit. 6—7 μ, crassit 3—4 μ, hyalinis.
Ricinus communis. S. Landbohøjskolens Have (2/9 97).

2015. **Phyllosticta oxalidis** Sacc., Syll. III [39], All. VI [134].
Oxalis acetosella. J. Bangsbo Skov (6/7 03!).

2016. **Phyllosticta pseudoplatani** Sacc., Syll. III [13], All. VI [15], R 02 a [563].
Acer pseudoplatanus. F. Vejstrup Aaskov; L. Hardenberg.

2017. **Phyllosticta platanoides** Sacc., Syll. III [13], All. VI [16].
Acer campestre. F. Skaarup (24/9 76).

2018. **Phyllosticta aceris** Sacc., Syll. III [14], All. VI [16].
Acer campestre. S. Forsthaven. October.

2019. **Phyllosticta evonymi** Sacc., Syll. III [15], All. VI [40].
Evonymus europaeus. S. Odsherreds Klint. August.

2020. **Phyllosticta laureolae** Desm., Syll. III [26], All. VI [37].
Daphne laureola. S. Haveselskabets Have.

2021. **Phyllosticta osteospora** Sacc., Syll. III [34], All. VI [44].
Rhamnus cathartica. J. Horsens!; F. Skaarup (2/10 80).

2022. **Phyllosticta Haynaldii** Roum. & Sacc., Syll. III [25], All. VI [43].
Ilex aquifolium. S. Kobenhavn (June 03 Th. Leth).

2023. **Phyllosticta coronaria** Passerini, Syll. X [102], All. VI [63], R 02 a [563].
Philadelphus coronarius. L. Stensgaard ([6]/8 98).

2024. **Phyllosticta hydrangeae** Ell. & Ev., Syll. X [105], All. VI [48], R 02 a [563].
Hydrangea sp. cult. F. Stige (Lind 11 b); S. Haveselskabets Have.

2025. **Phyllosticta grossulariae** Sacc., Syll. III [17], All. VI [82].
Ribes grossularia, rubrum, nigrum. Common.

2026. **Phyllosticta ribicola** (Fries) Sacc., Syll. III [17], All. VI [82], Syn: Sphaeria rib. Fries S. M. II [530], R 02 a [563].
Ribes rubrum. J. Skarum ([22]/8 99!).

2027. **Phyllosticta grandimaculans** Bubak 12 [46].
Fragaria vesca. J. Rindsholm ([11]/10 04!); B. Almindingen!.

2028. **Phyllosticta alchimillae** (Vgr.) All. VII [752], Syn: Phoma alch. Vestergren, Syll. XIV [873], not Phoma alch. Rostrup 03 b.
Alchimilla vulgaris. J. Horsens (! [2]/11 01).

2029. **Phyllosticta agrimoniae** (Lasch), Syn: Depazea agr. Lasch, Syll. III [63].
Agrimonia eupatoria. J. Feggeklit ([23]/8 99!).

2030. **Phyllosticta prunicola** (Opiz) Sacc., Syll. III [4], All. VI [70], R 02 a [562].
Cerasus avium. F. Glorup, Skaarupør; L. Stensgaard. *Prunus spinosa.* J. Krabbesholm!. *Prunus domestica.* S. Landbohøjskolens Have.

2031. **Phyllosticta epiphylla** (Lév.) All. VI [71], Syn: Phoma ep. Sacc., Syll. III [107].
Prunus laurocerasus. On imported leaves.

2032. **Phyllosticta persicae** Sacc., Syll. III [8], All. VI [63], R 02 a [563].
Persica vulgaris. F. Odense ([22]/9 87 see R 88 i), Glorup.

2033. **Phyllosticta cerasicola** Speg., Syll. III [6], All. VI [73].
Prunus padus. F. Brudager. September.

2034. **Phyllosticta pirina** Sacc., Syll. III [7], All. VI [65], R 02 a [562].
Pirus malus. J. Stensballe!; S. Landbohøjskolens Have, Haveselskabets Have, Roskilde; L. Abed.

2035. **Phyllosticta mali** Prill. & Delacr., Syll. X [109], All. VI [66].
Pirus malus. S. Holte ([9]/11 07!).

2036. **Phyllosticta cydoniae** (Desm.) Sacc., Syll. III [5], All. VI [35], R 02 a [562].
Cydonia japonica. S. Lyngby (K. H.).

2037. **Phyllosticta mespili** Sacc., Syll. III [5], All. VI [58].
Mespilus germanica. S. København (! [2]/11 07).

2038. **Phyllosticta cytisi** Desm., Syll. III [10], All. VI [37], R 02 a [562].
Cytisus laburnum. J. Horsens!: S. Lillerød, Lyngby (K. H.), København.

2039. **Phyllosticta coniothyrioides** Sacc., Syll. X [104], All. VI [37].
Cytisus alpinum. S. København. *Cytisus laburnum.* J. Viborg!, Nørholm; S. Holte!, København.

2040. **Phyllosticta eucalypti** Thümen, Syll. III [9], All. VI [40], R 02 a [562].
Eucalyptus giganteus (hosp. nov.). S. Landbohøjskolens Have.

2041. **Phyllosticta aucubicola** Sacc., Syll. III [30], All. VI [22].
Aucuba japonica. S. Landbohøjskolens Have.

2042. **Phyllosticta leucostigma** (de C.) All. VI [47], Syn: Phoma leuc. Sacc., Syll. III [105].
Sporidiis oblonge-ovatis, 14—23 μ × 4—5 μ.
Hedera helix. J. Horsens ([16]/4 02!); S. Tystofte.

2043. **Phyllosticta hedericola** Dur. & Mont., Syll. III [20], All. VI [45], R 02 a [562].
Hedera helix. Very common.

2044. **Phyllosticta eryngii** Sydow, Syll. XVI [836], All. VII [764].
Eryngium maritimum. F. Aahuse.

2045. **Phyllosticta cicutae** (v. Höhnel) Lind 07 c [275], Syn: Placosphaeria cic. v. Höhnel 06 a [667], Sphaeria cic. Lasch nom. nudum 1854.
Cicuta virosa. J. Viborg ([11]/10 04! Exs. Vgr. no 1339).

2046. **Phyllosticta leucothoës** Ellis, Syll. X [116], R 02 a [562].
Leucothoë axillaris (hosp. nov.). S. Forsthaven (new for Europe).

2047. **Phyllosticta primulicola** Desm., Syll. III [56], All. VI [142].
Primula veris cult. J. Skive ([2]/10 00!).

2048. **Phyllosticta dulcamarae** Sacc., Syll. III [49], All. VI [148].
Solanum dulcamara. J. Gadholt ([10]/7 03!).

2049. **Phyllosticta scrophulariae** Sacc., Syll. III [46], All. VI [146].
Scrophularia nodosa. S. Lyngby (K. H.).

2050. **Phyllosticta verbenae** Sacc., Syll. III [47], All. VI [154].
Verbena officinalis. L. Vesterborg.

2051. **Phyllosticta syringae** West., Syll. III [22], All. VI [90], R 97 a & 02 a [562].

Syringa vulgaris. Common. Aug.—Nov. *Syringa oblata* & *fositra.* S. København.

2052. **Phyllosticta ligustri** Sacc., Syll. III [21], All. VI [52].
Ligustrum vulgare ([20]/10 01!).

2053. **Phyllosticta forsythiae** Sacc., Syll. III [27], All. VI [43], R 02 a [562].
Forsythia. S. Lyngby (K. H.).

2054. **Phyllosticta auriculata** Kalchbr. & Cooke, Syll. III [29], R 02 a [562].
Buddleja globosa. S. Landbohøjskolens Have.

2055. **Phyllosticta nerii** West., Syll. III [26], All. VI [60], R 02 a [562].
Nerium oleander. S. Haveselskabets Have.

2056. **Phyllosticta vincetoxici** Sacc., Syll. III [52], All. VI [115].
Cynanchum vincetoxicum. F. Skaarup.

2057. **Phyllosticta vulgaris** Desm., Syll. III [18], All. VI [43].
Lonicera xylosteum. S. Boserup ([16]/9 93 O. R.). *Lonicera periclymenum.* J. Krabbesholm!: L. Hardenberg.

2058. **Phyllosticta symphoricarpi** West., Syll. III [19], All. VI [90], R 02 a [562].
Symphoricarpus racemosus. F. Bogense (Exc. [3]/8 95); L. Stensgaard.

2059. **Phyllosticta weigeliae** Sacc. & Speg., Syll. III [19], All. VI [90], R 02 a [562].
Weigelia rosea. J. Viborg. August.

2060. **Phyllosticta opuli** Sacc., Syll. III [16], All. VI [95].
Viburnum opulus. J. Fredrikshavn!; Møen Klinteskoven.

2061. **Phyllosticta viburni** Passerini, Syll. X [113], All. VI [95], R 02 a [562].
Viburnum tinus. J. Ribe ([26]/8 90 A. Simonsen see R 90 g "Phyll. tinea").

2062. **Phyllosticta farfarae** Sacc., Syll. III [45], All. VI [153].
Tussilago farfarus. S. Lyngby (K. H.).

2063. **Phyllosticta petasitidis** Ell. & Ev. f. Petasitidis officinalis Allescher, Syll. X [129], All. VI [136].
Petasites officinalis. J. Viborg Sø (! [12]/10 05 Exs. Kabat & Bubak no 603).

Phoma.

Phoma is rather a common name of the conidial stages of various genera of Sphaeriales etc. It will be necessary to divide this large formgenus into many small ones as soon as it is better elucidated how

the life-cycles of the separate species are formed. Here I shall state the cycles of development of a few of the better known species; I must, however, observe that only a few of them have been the object of cultural experiments.

Phoma Fuckelii	corresp. to	Nitschkia cupularis (see Saccardo).
— cyclospora	—	Physalospora minutula (see Sacc.).
— Berkeleyi	—	Phomatospora Berkeleyi (see Sacc.).
— uvicola	—	Guignardia Bidwelli (see Jaczewsky).
— reniformis	—	— baccae (see Jaczewsky).
— melaena	—	Ascospora melaena.
— anigozanthi	—	Mycosphaerella millepunctata (see F. Tassi).
— betae	—	— tabifica (see Prillieux).
— nebulosa	—	— nebulosa.
— marina	—	Didymosphaeria marina (see L. K. R. 06).
— crepini	—	Leptosphaeria lycopodina (see K. 90 [57]).
— tiliae	—	— vagabunda.
— Grovei	—	— rubella (see All. VI [277]).
— doliolum	—	— doliolum.
— acuta	—	— conformis.
— petiolorum	—	Pleospora petiolorum (see Fuckel).
— penicillatum	—	— penicillus (see Fuckel).

2064. **Phoma marina** nom. nov.

The conidial stage of Didymosphaeria marina, described by L. Kolderup Rosenvinge (06). Peritheciis globosis vel lentiformibus, 156—175 μ · 88—100 μ; conidiis bacillaribus, hyalinis, 4 μ × 1 μ, basidiis arcte coarctatis insidentibus.

In the thallus of *Chondrus crispus* associated with Didymosphaeria marina.

2065. **Phoma equiseti** Desm., Syll. III [168], All. VI [341].

Equisetum fluviatile. J. Boller!; S. Slangerup!, Sjælsø (O. R.), Søndersø, Dronninggaard, Gammelmose (R 06 cc [357]). *Equisetum palustre*. F. Tange Aa. *Equisetum hiemale*. Moens Klint.

2066. **Phoma hysterella** Sacc., Syll. III [102], All. VI [254].

Taxus baccata. S. Forsthaven.

2067. **Phoma juniperi** (Desm.) Sacc., Syll. III [101], All. VI [218].

Juniperus sabina (hosp. nov.). S. Haveselskabets Have.

2068. **Phoma Libertiana** Speg. & Roum., Syll. III [73], All. VI [193].

Juniperus communis. J. Mosskov. *Cedrus Deodora*. S. Gjorslev (Gad), Holsteinborg (Oppermann). *Pinus strobus*. S. Geelskov, Gammelmose. *Pinus montana*. J. Tvorup Klit, Viborg Plantage. *Pinus silvestris*. J. Stendalsgaard.

2069. **Phoma thujana** Thümen, Syll. III [102], R 02 a [569].
Thuja gigantea. L. Søllested. *Thuja orientalis.* Falst. Hanenov. *Thuja occidentalis.* S. Forsthaven. *Thujopsis dolabrata.* S. Botanisk Have, Landbohøjskolens Have. *Chamaecyparis nutkaensis.* S. Landbohøjskolens Have. *Chamaecyparis Lawsoniana.* J. Viborg ([26]/10 85 Gad); L. Søllested.

2070. **Phoma strobiligena** Desm., Syll. III [150], All. VI [197].
On cones of *Thuja occidentalis.* L. Stensgaard. *Abies alba.* S. Jægersborg. *Pinus montana.* J. Viborg.

2071. **Phoma deflectens** Bom. Rous. Sacc., Syll. III [164], All. VI [190].
Araucaria imbricata. J. Linaa Vesterskov; L. Juellinge.

2072. **Phoma abietis** Briard, All. VI [195], Syll. X [163].
Rostrup has found this Phoma associated with Mycosphaerella abietis and he supposes the Phoma to be a form of fructification of the Mycosphaerella (05 b).
Sporidiis ovatis, hyalinis, eguttulatis, 5—8 μ × 3—4 μ.
Abies alba, common, recorded from J., F., S. etc.

2073. **Phoma eguttulata** Karsten, Syll. X [162], All. VI [193].
On leaves of *Picea excelsa.* S. (C. V. Prytz).

2074. **Phoma pithyophila** (Cda.) Sacc., Syll. III [101], All. VI [199], Syn: Phoma acicola (Lév.) Sacc., Syll. III [100], All. VI [198] c. icon., Phoma pinicola (Zopf) Sacc., Syll. III [100], All. VI [199], Sclerophoma pithyophila v. Höhnel 09 [1234].
On leaves of *Abies Nordmanniana, Pinus montana, silvestris, corsicana, austriaca.* Common.

2075. **Phoma pini** (Desm.) Sacc., Syll. III [101], All. VI [193], Syn: Sclerophoma pini v. Höhnel 09 [1234].
Picea excelsa. J. Varde (Bastrup). *Abies sibirica.* S. Brødemose.

2076. **Phoma laricis** Ouds., All. VII [809].
Larix decidua. J. Fusingø Skov ([29]/5 04!).

2077. **Phoma pithyella** Sacc., Syll. X [164], All. VI [200], Syn: Sclerophoma pithya (Thümen) v. Höhnel 09 [1234].
On twigs of *Larix decidua.* J. Viborg!; F. Glorup, Broholm.

2078. **Phoma lineolata** Desm., Syll. III [150], All. VI [200].
On cones of *Larix decidua.* S. Landbohøjskolens Have, Vrangsgaard.

2079. **Phoma pinastrella** Sacc., Syll. III [101], All. VI [199].
Pinus montana. J. Fredrikshaabs Plantage.

2080. **Phoma graminis** Desm., Syll. III [167], All. VI [338].
On straw. J. Birkelse (Skeel).

2081. **Phoma ammophila** Dur. & Mont., Syll. III [166] & X [186].
Calamagrostis arenaria. S. Hundested, July.

2082. **Phoma elymi** Rostrup 99 a [276], Syll. XVI [878], Syn: Phyllosticta elymi All. VII [763].
Peritheciis sparsis, fuscis, 120 μ diam.; conidiis numerosis, ellipsoideis 6—7 × 5 μ hyalinis vel dilute chlorinis; parietibus peritheciae membranaceis, dilute fuscis, circa ostiola atris (R).
On dead leaves of *Hordeum arenarium*. J. Skagen (E. W.); S. Tisvilde ($^{29}/_{6}$ 98).

2083. **Phoma typhae** Pass., Syll. X [184], Syn: Phyllosticta typhae All. VI [166].
Typha angustifolia. Lang. Vestergaard; L. Rødby ($^{15}/_{6}$ 06).

2084. **Phoma alliicola** Sacc., Syll. III [157], All. VI [333].
On dead stems of *Allium vineale*. L. Bredfjord ($^{30}/_{6}$ 78). *Allium scorodoprasum*. J. Horsens Fjord!.

2085. **Phoma asparagi** Sacc., Syll. III [162], All. VI [333].
Asparagus officinalis, common, Sept.—Nov.

2086. **Phoma polygonatea** Sacc., Syll. III [161], All. VI [335].
On dead stems of *Orchis maculata*. J. Tamdrup ($^{20}/_{4}$ 02!).

2087. **Phoma corrientina** Speg., Syll. III [163].
Oncidium papilio major. S. København (Magius. New for Europe).

2088. **Phoma herbarum** West., Syll. III [133], All. VI [329].
Very common, all the year round. Recorded on dead stems of many different herbacious plants, viz. *Polygonum, Cannabis, Alchimilla, Rubus, Medicago, Lupinus, Heracleum, Origanum, Galium, Artemisia, Hieracium, Solidago*.

2089. **Phoma acervalis** Sacc., Syll. III [97], All. VI [244].
Salix viminalis. S. Lersøen.

2090. **Phoma salicis** Sacc., Syll. III [97], All. VI [244].
Salix alba. J. Utoft Plantage. *Salix hippophaëfolia*, F. ($^{22}/_{2}$ 04 Holst).

2091. **Phoma salicina** West., Syll. III [97], All. VI [245].
On dead twigs of *Salix daphnoides*. J. Brædstrup (W. Mark); S. Gammelmose. *Salix aurita*. J. Silkeborg.

2092. **Phoma corticicola** Preuss, Syll. III [98], All. VI [181].
Betula verrucosa. S. Soro (Thomsen).

2093. **Phoma oppilata** (Fries) Sacc., Syll. III [98], All. VI [182], Syn: Sphaeria opp. Fries S. M. II [493].
On dead twigs of *Betula verrucosa*. F. Langesø (C. V. Prytz).

2094. **Phoma faginea** Rostrup 02 a [569].

On the young stems of Fagus silvatica in the nurseries, producing at first small dark, sunken spots, but eventually girdlind and killing the plants. The pycnides appear most abundantly upon the surface of the spots. The conidia are hyaline, ovate, 8—10 μ × 3—4 μ.

J. Borridsø (Moldenhaver); S. Jægersborg, Svendstrup Magleskov (Muus), Sorø Sønderskov; B. Almindingen.

2095. **Phoma myricae** Karsten, Syll. X [155], All. VI [226].

On dead twigs of *Myrica gale*. S. Bromme Plantage ($^{6}/_{10}$ 01).

2096. **Phoma acuta** Fuckel, Syll. III [133], All. VI [326].

On dead stems of *Urtica dioeca*. J. Skive ($^{13}/_{5}$ 01!).

2097. **Phoma urticae** Schulzer & Sacc., Syll. III [140], All. VI [326].

On dead stems of *Urtica dioeca*. S. Lyngby Mose (O. R.).

2098. **Phoma nebulosa** (Fries) Berk., Syll. III [135], All. VI [304], Syn: Sphaeropsis neb. Fries S. M. II [430].

On dead stems of *Urtica dioeca*. J. Stensballegaard ($^{5}/_{4}$ 02!). *Pastinaca vulgaris*. S. Holte. *Daucus carota*. L. Abed. *Solanum tuberosum*. S. København.

2099. **Phoma exigua** Desm., Syll. III [134], Syll. VI [302].

Fagopyrum rotundatum. S. Lyngby (K. H.).

2100. **Phoma punctiformis** Desm., Syll. III [145], Syn: Phyllosticta punct. All. VI [129].

On dead leaves of *Lychnis chalcedonica*. S. Lyngby (K. H.).

2101. **Phoma atriplicina** West., Syll. III [140], All. VI [270].

Atriplex hastata. F. Tiselholt.

2102. **Phoma betae** Frank, Syn: Phoma betae Rostrup Syll. XI [492], Phyllosticta tabifica Prill., All. VI [105], Phoma tabif. Prill. & Delacr., Syll. X [180], Phoma sphaerosperma Rostrup 89 j [746] not Karsten, Hedwigia 85 [74] nec. Fuckel, Phoma-Rodbrand M. L. M. 11 a, Lit: R 93 d [117], 94 c [322], 02 a [566].

Beta sativa, common.

2103. **Phoma effusa** Rob., Syll. VI [144], Syn: Phyllosticta eff. All. VI [125].

On dead leaves of *Helleborus*. S. Vilvorde. October.

2104. **Phoma ranunculacearum** Desm.

On dead leaves of *Ranunculus lingua*. J. Rindsholm!; S. Gammelmose (R 06 cc [357]).

2105. **Phoma clematidis** Sacc., Syll. III [118], All. VI [281].

On dead twigs of *Clematis vitalba*. J. Skive ($^{11}/_{5}$ 01!).

2106. **Phoma Thümenii** Passerini, Syll. X [141], All. VI [223].
Liriodendron tulipifera. S. Landbohøjskolens Have.

2107. **Phoma laurella** Sacc., Syll. III [82], All. VI [219].
Laurus nobilis. S. Brede ([28]/7 86 J. Hansen see R 86 h [144] & 02 a [569]).

2108. **Phoma rhoeadis** Brunaud, Syll. XI [487], All. VI [311].
Papaver dubium. J. Dvergetved (V. S.).

2109. **Phoma brassicae** (Thümen) Sacc., Syll. III [119], All. VI [273].
On decayed stems of *Brassica oleracea*. S. Lyngby (L. K. R.).

2110. **Phoma napobrassicae** Rostrup 92 b [330], 93 d [116], 94 c [322], Syll. XI [488], All. VI [274], Lit: W. Carruthers 04, Potter 00, Hagem 12, R 02 a [569], M. L. M. 10 a [333].
Brassica oleracea f. *napobrassica*. J. (M. L. M.); F. Næsgaard ([27]/10 91 la Cour).

2111. **Phoma malvacearum** West., Syll. III [122], All. VI [263].
Malva alcea. S. Faarevejle. July.

2112. **Phoma picea** (Fries) Sacc., Syll. III [140], All. VI [269], Syn: Sphaeropsis picea Fries S. V. [419], Phomopsis picea v. Höhnel.
On dead stems of *Hypericum hirsutum*. Møens Lilleklint.

2113. **Phoma phacidioides** Sacc., Syll. III [106], Syn: Phyllosticta phac. All. VI [25].
On dead leaves of *Buxus sempervirens*. S. Forsthaven May.

2114. **Phoma lirelloides** Sacc. & Penz., Syll. III [72], All. VI [209].
Evonymus japonica. S. København. May.

2115. **Phoma ilicicola** (Cooke & Ellis) Sacc., Syll. III [106].
Peritheciis atris, ostiolis candidis, sporidiis ovatis, 10—14 μ × 7—8 μ.
On leaves of *Ilex aquifolium*. S. Landbohøjskolens Have ([15]/5 95).

2116. **Phoma Cookei** Pirotta, Syll. III [80], All. VI [259].
On twigs of *Vitis vinifera*. S. København.

2117. **Phoma baccae** Catt., Syll. III [149].
On the fruit of *Vitis vinifera*. S. Næsbyholm (Sept. 89).

2118. **Phoma ribicola** (Fries) Sacc., Syll. III [17], Syn: Sphaeria rib. Fries S. M. II [530], Phyllosticta rib. All. VI [82].
On dead leaves of *Ribes nigrum*. Falst. Stubbekøbing ([21]/7 01).

2119. **Phoma spuria** Vestergren, Syll. XIV [874], All. VII [819].
On stems of *Potentilla argentea*. J. Horsens ([20]/4 02!).

2121. **Phoma rubiginosa** Brunaud, Syll. XIV [873], All. VII [824].
On dead fruit of *Rosa canina*. J. Horsens ([10]/6 02!).

2122. **Phoma aculeorum** Sacc., Syll. III [76], All. VI [243].
On thorns of *Rosa canina*. J. Stensballesund ([2]/2 02!).

2123. **Phoma ruborum** West., Syll. III [76], All. VI [244], R 02 a [569].
Rubus idaeus. S. Rosenborg Have ([14]/9 95 F. Paludan).

2124. **Phoma cydoniae** Sacc. & Schulzer, Syll. III [75], All. VI [203].
Cydonia japonica. S. Landbohøjskolens Have.

2125. **Phoma pomorum** Thümen, Syll. III [152], All. VI [231], R 84 g.
Pirus prunifolia. S. Landbohøjskolens Have.

2126. **Phoma crataegi** Sacc., Syll. III [78], All. VI [202].
Crataegus monogyna. S. Herløv. September.

2127. **Phoma melaena** (Fries) Dur. & Mont., Syll. III [135], All. VI [268], Syn. Sphaeria mel. Fries S. M. II [431].
On stems of *Astragalus glycyphyllus*. J. Understed!; S. Tisvilde; Møens Klint!. *Lathyrus silvester*. F. Skaarupør. *Cicer arietinum* (hosp. nov.). F. Brændeskov (H. Sehested). *Silene venosa*. S. Boserup.

2128. **Phoma Berkeleyi** Sacc., Syll. III [134], All. VI [294].
Lathyrus silvester. F. Broholm. May.

2129. **Phoma phaceoli** Desm., Syll. III [120], All. VI [312].
Phaceolus cult. S. Lyngby (C. Mariboe).

2130. **Phoma sophorae** Sacc., Syll. III [67], All. VI [247].
On dead twigs of *Sophora japonica*. S. Helene Kilde. July.

2131. **Phoma ramulicola** (Ouds.) All. VI [180], Syn: Phoma aucubae West. f. ram. Ouds., Syll. XI [484].
Aucuba japonica. S. Botanisk Have. June.

2132. **Phoma leguminum** West., Syll. III [147], All. VI [187].
Cytisus laburnum. S. Haveselskabets Have. Dec.

2133. **Phoma epilobii** Preuss, Syll. III [134] & X [179], All. VI [290].
Epilobium palustre (hosp. nov.). S. Gammelmose (R 06 cc [357]).

2134. **Phoma apiicola** Klebahn 10 c. icon., Selleriskurv (Lind 10 g & 11 a).
On roots of *Apium graveolens*. Common in the gardens.

2135. **Phoma anthrisci** Brunaud, Syll. XI [490], All. VI [267].
On dead stems of *Anthriscus silvester*. J. Skive ([14]/2 05!), Viborg (Exs. Kab. & Bub. no 454).

2136. **Phoma caulographa** Dur. & Mont., Syll. III [126], All. VI [280]. Sporidiis oblonge-lanceolatis, hyalinis, parum curvatis, 12 μ × 3 μ, 2-guttulatis.

Conium maculatum. S. Billesborg Strand ($^{7}/_{10}$ 94).

2137. **Phoma anethi** (Fries) Sacc., Syll. III [125], All. VI [265], Syn: Sphaeria an. Pers., Fries S. M. II [429].

Anethum graveolens. F. Skaarup.

2138. **Phoma complanata** (Fries) Desm., Syll. III [126], All. VI [266—317], Flad Støvkugle (H. 37 [870]).

On dead stems of *Angelica silvestris.* J. Bangsbo!, Flade!, Krabbesholm!; F. Holmdrup; S. Dronninggaard. *Alectorolophus major.* F. Holmdrup ($^{22}/_{7}$ 83 C. J. Johanson).

2139. **Phoma Rostrupii** Sacc., Syll. XI [490], All. VI [287], Syn: Phoma sanguinolenta Rostrup 88 a [384], not Phoma sang. Grove 85, Syll. X [168], Gulerodsvamp (R 93 d c. icon.), Lit: R 89 j [746], 90 l [574], 94 b c. icon., 94 e [599] c. icon.. 96 a c. icon., 02 a. c. icon., 06 a [101], Henning 95, Lind & Ravn 10 [75].

The disease first makes itself evident as a small, brown, sunken, decayed spot on the root. This spot increases in extent until the whole root is infested. In the pit a diseased carrot will infect all the neighbouring carrots. The second year the fungus also attacks the stems and produces an abundance of the typically phoma-conidia. These conidia are discharged in long, twisted, blood-red cirrhi.

Common and very noxious on cultivated *Daucus carota,* found for the first time at Fredrikssund 1887. Out of Denmark only recorded from Schleswig and the Island Als.

2140. **Phoma leptidea** (Fries) Sacc., Syll. III [111], Syn: Sphaeria lept. Fries S. M. II [522], Phyllosticta lept. All. VI [94].

Vaccinium vitis idaea. S. Hornbæk Plantage. July.

2141. **Phoma rhodorae** Cooke, Syll. X [148].

Peritheciis epiphyllis, sparsis, atro-nitidis, gregariis, imersis, epidermide initio tectis, eadem demum stellatim rupta cinctis, apice poro pertusis; sporulis ovato-oblongis, hyalinis 5 μ × 2 μ eguttulatis. Hab in foliis emortius languescentibus vel semi-emortius.

Rhododendron sp. S. Charlottenlund ($^{7}/_{5}$ 94). *Rhododendron Catewbiense.* Lang. Tranekær ($^{8}/_{4}$ 00).

2142. **Phoma Debeauxii** Roum., Syll. III [126], see tab. VI figg. 76 & 77.

On peduncles, floral leaves and calyx of *Statice sp. cult.* Falst. Stubbekøbing ($^{26}/_{7}$ 92 Olavia Rostrup, new for Europe).

2143. **Phoma tamaricis** (Mont.) Sacc., Syll. III [94]. All. VI [253].

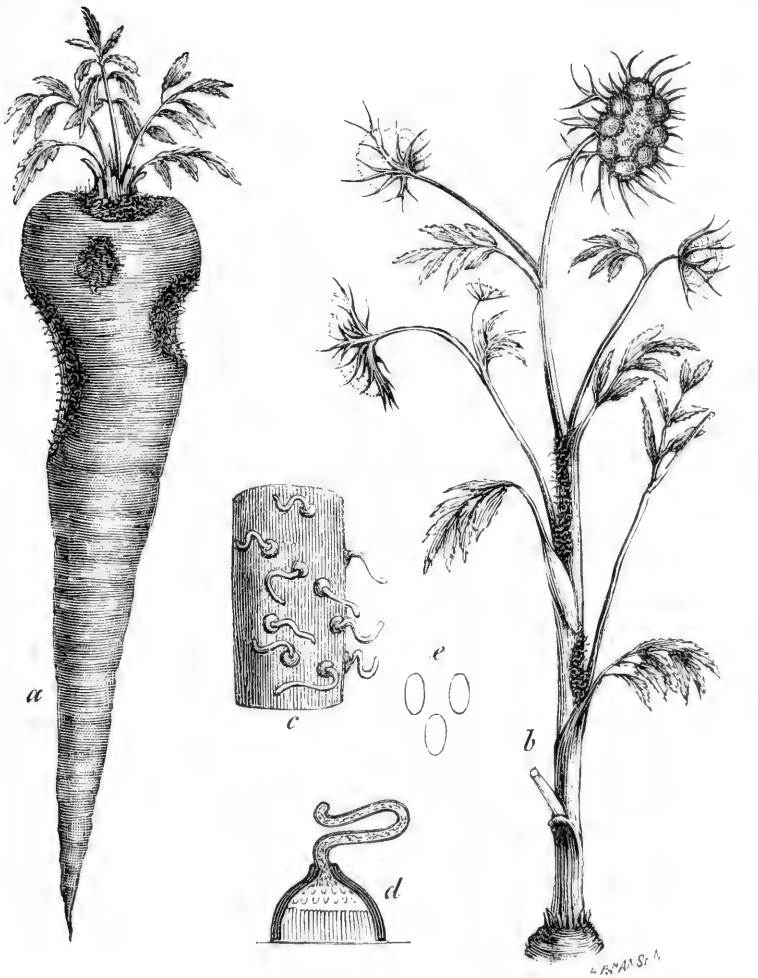


Fig. 31. Phoma Rostrupii.
a. Root of Daucus with pycnidia. b. Stem with pycnidia. c. Part of the same, enlarged. d. Cross-section of a pycnidium. e. Spores $\frac{800}{1}$. From R 02 a.

Tamarix decandra and *Myricaria germanica*. S. Landbohøjskolens Have, Sept.—Nov.

2144. **Phoma polemonii** Cooke, Syll. X [174], All. VI [314].
On dead stems of *Polemonium coeruleum*. S. Landbohøjskolens Have.

2145. **Phoma silvatica** Sacc., Syll. III [128], All. VI [306].
Melampyrum pratense. J. Skovgaard!, Rindsholm ($^{26}/_{6}$ 06!).

2146. **Phoma sceptri** Karsten, Syll. III [129].
On dead stems of *Pedicularis palustris*. J. Gaardbogaard (August O. R.).

2147. **Phoma fraxinea** Sacc., Syll. III [81], All. VI [211].
In the bark of *Fraxinus excelsior*, associated with Rhabdospora fraxini Pass. S. Gjorsløv ([28]/11 06 Anthon), Vordingborg!.

2148. **Phoma samararum** Desm., Syll. III [153]. All. VI [213].
Common on the fruit of *Fraxinus excelsior*, recorded from S. Dyrehaven (March 03 O. R.), Botanisk Have (F. & W. 07 [256]), Landbohøjskolens Have.

2149. **Phoma dipsaci** Cooke, Syll. X [170], All. VI [289].
Dipsacus silvestris. S. Landbohøjskolens Have.

2150. **Phoma ornithophila** Bom. Rous. Sacc.
On bird's-feather. S. Tokkekøb Hegn, Ravnholt (October. O. R.).

2151. **Phoma ossicola** Rostrup 97 m [48], Syll. XIV [889], All. VII [809].
Perithecia sparsa vel subgregaria, erumpentia, lenticularia, papillata; sporae oblongatae, longit. 10—12 μ, crassit. 3—4 μ, hyalinae, biguttulatae.
On the bones of a pike, *Esox lucius*. S. Furesø ([15]/9 95).

Macrophoma.

2152. **Macrophoma taxi** (Berk.) Sacc., Syll. X [194], All. VI [375], Syn: Phoma taxi (Berk.) Sacc., Syll. III [102].
Taxus baccata. J. Munkebjerg; F. Hofmansgave; S. Fredriksdal; B. Egeby (Bergsted).

2153. **Macrophoma strobi** (Berk. & Br.) Berl. & Vogl., Syll. X [202], All. VI [371], Syn: Cylindrophoma strobi Sacc., Syll. III [101].
On leaves of *Pinus strobus*. F. Skaarup; S. Charlottenlund.

2154. **Macrophoma caricis** (Fries) Berl. & Vogl., All. VI [360], Syn: Phoma caricis Sacc., Syll. III [164].
Carex arenaria. J. Bulbjerg.

2155. **Macrophoma pandani** (Lév.) Berl. & Vogl., Syll. X [197], Syn: Phoma pand. Sacc., Syll. III [157].
On leaves of *Pandanus utilis*. S. Botanisk Have.

2156. **Macrophoma Scheidweileri** (West.) Berl. & Vogl., Syll. X [189], All. VI [376].
Tilia europaea. S. Jægerspris. June.

2157. **Macrophoma Candollei** (B. & Br.) Berl. & Vogl., Syll. X [194], All. VI [358], Syn: Sphaeropsis Candollei Berk. & Br., Sphaeria buxi de C. Fl. Fr. VI [146], Septoria phacidioides Desm., Syll. III [499], All. VI [746].
Sporidiis ovatis, hyalinis, 26—36 μ × 8—10 μ.
On leaves of *Buxus sempervirens*. J. Viborg (1884 Gad); S. Lyngby!.

2158. **Macrophoma fraxini** Delacr., Syll. X [191], All. VI [352] c. icon. *Fraxinus excelsior.* J. Marselisborg Skov (F. & W. 09 [316]).

2159. **Macrophoma hyalina** (Berk. & Cooke) Berl. & Vogl., Syll. X [204], Syn: Phoma hyal. Sacc., Syll. III [88].
Fraxinus excelsior. S. Forsthaven. February.

2160. **Macrophoma hederacea** Brunaud, Syll. XI [496], All. VI [356].
Ampelopsis hederacea. S. Slagelse ($^6/_8$ 06 C. A. Jordan).

Phomopsis.

Phomopsis is a common name for the conidial forms corresponding to the species of Diaporthe (see pag. 241).

2161. **Phomopsis conorum** (Sacc.) Diedicke 11, Syn: Phoma con. Sacc., Syll. III [150], All. VI [195].
On cones of *Picea excelsa.* S. Hareskoven (O. R.).

2162. **Phomopsis pithya** (Sacc.)!, Syn: Phoma pit. Sacc., Syll. III [73], All. VI [196], Phoma abietina Hartig, Fusicoccum abietinum Prill. & Delacr.
A true parasite (see R 85 o [10], 90 a [230] c. icon., 02 a [567] c. icon.).
Abies balsamea. J. Holt Plantage (Sehested). *Abies alba.* Common, recorded from J., F., S. etc. *Abies concolor.* J. Friisenborg (P. Winge). *Picea excelsa.* J. Randbøldal; F. Trolleborg (Holm). *Pinus silvestris.* S. Ruderhegn. *Pinus montana.* J. Tversted Plantage, Varde, Fredericia. *Pinus strobus.* S. Ruderhegn; B. Hammershus (R 06 dd). *Pseudotsuga Douglasii.* J. Buderupholm, Friisenborg; F. Glorup, Broholm; S. Lillevang (Bonnevie); B. Almindingen (R 06 dd). *Juniperus virginiana* (hosp. nov.). F. Wedellsborg (Schrøder).

2163. **Phomopsis juglandina** (Sacc.) v. Høhnel, Syn: Phoma jug. Sacc., Syll. III [96], All. VI [217].
Juglans regia. F. Broholm, Skaarup; S. Landbohøjskolens Have. *Juglans mantchurica.* S. Landbohøjskolens Have. *Pterocarya fraxinifolia.* F. Glorup.

2164. **Phomopsis alnea** (Nke.) v. Höhnel, Syn: Phoma alnea Sacc., Syll. III [98], All. VI [178].
Alnus glutinosa. S. Gjorslev; B. Almindingen (R 06 dd).

2165. **Phomopsis quercina** (Sacc.) v. Höhnel, Syn: Fusicoccum querc. Sacc., Syll. III [248], All. VI [555], R 02 a [569].
On twigs of *Quercus robur.* J. Gjesten Skov; S. Petersgaard (Prytz); L. Stenskov.

2166. **Phomopsis oblonga** (Desm.) v. Höhnel, Syn: Phoma obl. Desm., Syll. III [99], All. VI [256].
Ulmus montana. S. Lynge. August.

2167. **Phomopsis cinerascens** (Sacc.) Diedicke 11, Syn: Phoma cin. Sacc., Syll. III [96], All. VI [210].
Ficus elastica. S. Botanisk Have (L. K. R.).

2168. **Phomopsis Durandiana** (Sacc. & Roum.)!, Syn: Phoma Dur. Sacc. & Roum, Syll. III [140], All. VI [318].
Surely corresponding to Diaporthe maculosa Sacc. & Speg.
On stems of *Rumex*. J. Sparkær Mose!.

2169. **Phomopsis detrusa** (Sacc.) Diedicke 11, Syn: Phoma det. Sacc. Syll. III [72], All. VI [181].
Berberis vulgaris. F. Skaarup.

2170. **Phomopsis Tulasnei** (Sacc.) v. Höhnel, Syn: Myxosporium Tul. Sacc., Syll. III [723], All. VII [511], Septomyxa negundinis, All. VII [611], Syll. XIV [1020], Myxosporium Sphaethianum All. VII [511], Syll. XIV [1014].
Acer pseudoplatanus. J. Viborg!; F. Brændeskov (H. Sehested), Faaborg (J. J. Hansen); S. Ermelunden, København. *Acer negundo*. J. Viborg!.

2171. **Phomopsis notha** (Sacc.)!, Syn: Rhabdospora notha Sacc., Syll. III [583], All. VI [886].
Acer pseudoplatanus. S. København. *Acer campestre*. L. Stensgaard (July 81).

2172. **Phomopsis Lebiseyi** (Sacc.)!, Syn: Phoma Leb. Sacc., Syll. III [91], All. VI [173] & [349].
Acer negundo. F. Skaarup, S. Helene Kilde.

2173. **Phomopsis pustulata** (Sacc.) Diedicke, Syn: Phoma pust. Sacc., Syll. III [91], All. VI [172].
Acer pseudoplatanus. S. Helene Kilde.

2174. **Phomopsis aesculi** (Sacc.)!, Syn: Septomyxa aesc. Sacc. Syll. III [766], All. VII [612].
Found associated with, and surely corresponding to Diaporthe aesculicola (Cooke) Berl. & Vogl. on branches of *Aesculus hippocastanum*. J. Skive ([12]/11 1905!).

2175. **Phomopsis foveolaris** (Fries) Trav., Syn: Phoma fov. Sacc., Syll. III [72], All. VI [209], Sphaeria fov. Fries S. M. II [499].
Evonymus europaeus. S. Hornbæk. July.

2176. **Phomopsis ambigua** (Nke.)!, Syn: Phoma amb. Sacc., Syll. III [75], All. VI [231], R 02 a [569].
Pirus communis. S. Landbohøjskolens Have.

2177. **Phomopsis leptostromiforme** (Kühn) Bubak Exsicc. no 660. Syn: Cryptosporium lept. Kühn 80 [121], R 02 a [597].
Sporidiis cylindraceis, utrinque rotundatis, hyalinis, rectis, 8—10 µ 1,5—2 µ.

Lupinus luteus. S. Lyngby (Nov. 1892 K. H.), København. *Lupinus angustifolius.* S. København.

2178. **Phomopsis sarothamni** (Sacc.) v. Höhnel, Syn: Phoma sar. Sacc., Syll. III [68]. All. VI [247].
On dead twigs of *Sarothamnus scoparius.* Common.

2179. **Phomopsis rudis** (Sacc.) v. Höhnel, Syn: Phoma rudis Sacc., Syll. III [68], All. VI [203].
Cytisus laburnum. S. Klampenborg. March.

2180. **Phomopsis pseudacaciae** (Sacc.) v. Höhnel, Syn: Phoma pseud. Sacc., Syll. III [69], All. VI [240].
Robinia pseudacacia. L. Stensgaard.

2181. **Phomopsis corni** (Fuckel) Trav., Syn: Phoma corni Fuckel, Syll. III [86], All. VI [201].
Cornus alba. S. Landbohøjskolens Have. Dec.

2182. **Phomopsis eryngiicola** (Brun.) Trav., Syn: Phoma er. Brun, Syll. X [176], All. VI [292], Phoma nigrella P. Magnus, All. VI [292].
On the leaves and branches of *Eryngium maritimum.* J. Svinkløv!, Klitmøller; L. Sønderstrand (July 63).

2183. **Phomopsis dulcamarae** (Nke.) Trav., Syn: Phoma dulc. (Nke.) Sacc., Syll. III [127], All. VI [322].
Solanum dulcamara. F. Skaarup ([30]/7 83).

2184. **Phomopsis subordinaria** (Desm.) Trav., Syn: Phoma sub. Desm., Syll. III [136], All. VI [313].
A true parasite. On the stems of *Plantago lanceolata* common. (Exc. Kabat & Bubak). *Plantago media.* S. Helene Kilde, Faarevejle.

2185. **Phomopsis denigrata** (Desm.) Trav., Syn: Phoma den. Desm. Syll. III [130], All. VI [275].
Brunella vulgaris. F. Skaarup.

2186. **Phomopsis controversa** (Nke.)!, Syn: Phoma cont. (Nke.) Sacc., Syll. III [81], All. VI [211].
Fraxinus excelsior. S. Vemmetofte ([5]/8 02).

2187. **Phomopsis depressa** (Lév.) Trav., Syn: Phoma dep. Sacc., Syll. III [82], All. VI [251].
Syringa vulgaris, on dead capsules. J. Skive!; L. Stensgaard.

2188. **Phomopsis sambucella** (Sacc.) Trav., Syn: Phoma samb. Sacc., Syll. III [71], All. VI [245].
A true parasite, on twigs of *Sambucus racemosa.* S. Charlottenlund.

2189. **Phomopsis achilleae** (Sacc.) v. Höhnel, Syn: Phoma ach. Sacc., Syll. III [124], All. VI [261], Rhabdospora ach. Bres., Syll. X [394], All. VI [887] c. icon.

It is for the first time described by Nitschke (67 [271]) as the conidial form of Diaporthe orthoceras.

Achillea millefolium. J. Horsens!; S. Flaskekroen. *Achillea ptarmica.* F. Skaarup. *Matricaria inodora* (hosp. nov.). J. Horsens!. *Cirsium arvense & lanceolatum.* J. Tannishus!. *Lappa sp.* S. Fortunen (O. R.).

2190. **Phomopsis arctii** (Lasch)!, Syn: Phoma arctii Sacc., Syll. III [122], All. VI [300].

Lappa. S. Husum (O. R.), Flaskekroen.

2191. **Phomopsis albicans** (Desm.) Sydow Mycot. german. no 1012, Syn: Phoma alb. Desm., Syll. III [123], All. VI [280].

Hypochaeris glabra. Fanø (P. N.); F. Skaarup; Falst. Bøtø. *Hypochaeris radicata.* Læsø!; J. Hjørring!: Æbelø; S. Fredrikssund (! Exs. Vgr. no 1544); L. Bredfjord ([30]/7 78); B. Svaneke (R 06 dd).

Aposphaeria.

The forms of Aposphaeria are usually considered to constitute the lower stages of fructification of different species of Sphaeriaceae so for instance:

Aposphaeria	Brunaudiana	corresp. to	Strickeria obducens (see Jaap 10 b).
—	quercina	—	Mycosphaerella quercina (Jaczewsky).
—	fuscidula	—	Melanomma fuscidulum (Saccardo).
—	leptosphaerioides	—	— leptosphaerioides (Passerini).
—	pulviuscula	—	— pulviusculum (Saccardo).

2192. **Aposphaeria sequoiae** nov. spec.

Peritheciis minutis, sparsis, subglobosis, superficialibus, atris, 120—160 μ diam., vertice obtusis, pertusis, basi hyphis hyalinis filiformibus cinctis. Sporulis ovoideis, chlorino-hyalinis, eguttulatis 10—13 μ × 7—8 μ.

In foliis siccis *Sequoiae giganteae.* S. Gjorslev ([6]/5 03).

2193. **Aposphaeria calathiscus** (Cda.) Sacc., Syll. III [171], All. VI [387] c. icon.

On beech-wood. S. Charlottenlund. Sept.

2194. **Aposphaeria fibricola** (Berk.) Sacc., Syll. III [176], All. VI [386].
On an oak-post. S. Vordingborg ([15]/1 09!).

2195. **Aposphaeria collabescens** Schultzer & Sacc., Syll. III [170], All. VI [391].
Pirus communis. J. Brandstrup (Gad [10]/6 86).

2196. **Aposphaeria pomi** Schultzer & Sacc., Syll. III [177], All. VI [392].
On the peel of rotten fruit of *Pirus malus silvestris*. S. Furesø ([27]/3 10 C. H. O.).

Dendrophoma.

2197. **Dendrophoma convallariae** Cavara, Syll. X [211], All. VI [401], R 02 a [576].
Convallaria majalis. S. Slagelse.

2198. **Dendrophoma didyma** Fautrey & Roum., Syll. XI [498], All. VI [409].
Quercus robur. B. Almindingen (Octob. Ad. Sten).

2199. **Dendrophoma pulvis-pyrius** Sacc., Syll. III [181], All. VI [407].
Pirus malus, on twigs. J. Brønderslev ([14]/4 10 A. Andersen).

Asteromella.

2200. **Asteromella bacillaris** Pass., Syll. III [183].
Morus alba (hosp. nov.). S. Landbohøjskolens Have. August.

Mycogala.

2201. **Mycogala parietinum** (Schrader) Sacc., Syll. III [185], All. VI [419], Syn: Licea bicolor Pers.
On old bones, wood, pastebord etc. J. Viborg!.

Sphaeronema.

The formgenus Sphaeronema to be sure is a mixture of the conidial forms of various Pyrenomycetes, Dothideaceae and Cenangiaceae, vize:

Sphaeronema	piliferum	corresp. to	Ceratostomella pilifera	(see Saccardo).
—	subpilosum	—	—	subpilosa (see Fuckel).
—	procumbens	—	—	procumbens (see Fuckel).
—	Fuckelii	—	—	multirostrata (see Sacc.).

Sphaeronema	Fuckelianum	corresp. to	Dothiora	sphaeroides.
—	sorbi	—	—	pyrenophora.
—	lonicerae	—	—	lonicerae.
—	—	—	—	xylostei.
—	microscopica	—	—	mutila.
—	rhamni	—	—	rhamni.
—	brunneo-viride	—	Dermatea	padi.
—	spurium	—	—	prunastri.
—	polymorphum	—	—	vernicosa.
—	conicum	—	—	ariae (see Tul. Carp. III [160]).
—	versiforme	—	—	frangulae.
—	pithyum	—	Tympanis	pithya.
—	columnare	—	—	fraxini.
—	spinella	—	—	saligna.

2202. **Sphaeronema microscopicum** Wallr., Syll. III [197], All.VI [424].
Daedalea gibbosa. S. Dronninggaard (June 91 O. R.).

2203. **Sphaeronema acrospermum** Fries, Syll. III [192], All. VI [428].
On old wood. S. Botanisk Have (Oct. 02).

2204. **Sphaeronema pseudoplatani** nov. spec., see tab. VI fig. 78.
Peritheciis sparsis, minutis, sub epidermide nidulantibus eamque rostello longo, angusto, flexuoso vel curvo perforantibus, globosis, atris. Sporulis ellipsoideis, saepe 2-nucleatis, hyalinis 8—9 μ longis, 2—3 μ crassis; basidiis filiformibus 30 μ longis.
In fallen leaves of *Acer pseudoplatanus*. F. Glorup. Aug. 99.

2205. **Sphaeronema spurium** (Fries) Sacc., Syll. III [186], All. VI [432].
Prunus domestica. J. Stensballegaard (1/8 05!). *Prunus spinosa*. S. Bastrup!, Klampenborg!.

2206. **Sphaeronema sorbi** Sacc., Syll. III [186], All. VI [438].
Sorbus aucuparia. J. Lerbæk near Fredrikshavn!; S. Eskemosegaard (June 03 O. R.), Øvrerød!.

2207. **Sphaeronema polymorphum** Awd., Syll. III [185], All. VI [431].
Prunus triloba. J. Viborg (Gad).

Neottiospora.

2208. **Neottiospora schizochlamys** F. & W. 07 [255] c. icon.
On dead stems of *Scirpus caespitosus*. J. Borris (F. & W.).

2209. **Neottiospora caricum** Desm., Syll. III [216], All. VI [444].
Carex maxima. J. Munkebjerg.

Chaetophoma.

2210. **Chaetophoma ilicifolia** Cooke, Syll. III [199].
Ilex aquifolium. S. Landbohøjskolens Have ($^{20}/_{3}$ 96).

Asteroma.

Lit: Diedicke 11 b.

2211. **Asteroma pseudacori** All. VI [466].
Iris pseudacorus. S. Ermelunden (O. R.).

2212. **Asteroma salicis** Rob. & Desm., Syll. III [208], All. VI [474].
Salix cinerea (hosp. nov.). S. København. *Salix cinerea* × *viminalis* (hosp. nov.). S. Birkerød.

2213. **Asteroma capreae** Desm., Syll. III [208], All. VI [474].
Salix nigricans (hosp. nov.). S. Søndersø ($^{6}/_{10}$ 89 see R 92 g [76]).

2214. **Asteroma ulmi** Klotzsch, Syll. III [209], All. VI [478].
Ulmus montana. S. Arresødal (R 92 g [76]); B. Helligdommen (Neger 06).

2215. **Asteroma liriodendri** Cooke, Syll. III [203], R 02 a [577].
Liriodendron tulipifera. J. Stendalsgaard; F. Glorup: S. Botanisk Have, Landbohøjskolens Have.

2216. **Asteroma latebrarum** Grogn., Syll. III [212], All. VI [480].
Viola palustris (hosp. nov.). S. Gammelmosen (R 06 cc).

2217. **Asteroma vagans** Desm., Syll. III [204], All. VI [472].
Syringa vulgaris. F. Skaarup ($^{20}/_{10}$ 76).

2218. **Asteroma cacaliae** Desm., Syll. III [211], All. VI [452].
Petasites spuria. Møen Busum Strand (abundantly see R 05 b [312]).

Cicinnobolus.

2219. **Cicinnobolus Cesatii** de By., Syll. III [216], All. VI [481] c. icon.
Parasitical on *Erysiphaceae* upon the leaves of *Vitis vinifera, Plantago maritima, Viburnum lantana, Hyoscyamus niger.*

Vermicularia.

Fries already expresses his doubt about the proper systematical place of this genus. v. Höhnel (11 a [422]) removes it from the Sphaeropsidales and places it among Tubercularieae-Dematieae. As the classification of the Fungi imperfecti is, after all, quite provisional as long as the true correspondence between the separate species of conidialforms and the corresponding ascomycetes is unknown, I shall leave this formgenus where it has hithertho been placed.

2220. **Vermicularia caricis** Brunaud, Syll. XI [504], All. VI [498].
Carex flava. Fænø. August.

2221. **Vermicularia relicina** Fries, Syll. III [234], All. VI [503] c. icon.
Aira flexuosa. B. Almindingen. *Cynosurus cristatus*. Fænø. July.

2222. **Vermicularia graminicola** West., Syll. III [235], All. VI [508].
Avena pratensis. S. Rørvig. *Anthoxanthum odoratum*. S. Tisvilde. *Calamagrostis epigejos*. J. Utoft Plantage. *Koeleria cristata*. J. Skørping.

2223. **Vermicularia affinis** Sacc. & Briand, Syll. X [227], All. VI [505].
Calamagrostis epigejos. Møen Maglevandsfaldet ($^{12}/_{6}$ 09!).

2224. **Vermicularia schoenoprasi** Awd., Syll. III [233], All. VI [494].
Allium frustulosum. S. Landbohøjskolens Have.

2225. **Vermicularia liliacearum** West., Syll. III [233], All. VI [506].
Majanthemum bifolium. J. Løgstrup ($^{26}/_{5}$ 03!).

2226. **Vermicularia herbarum** West, Syll. III [226], All. VI [502].
Dianthus superbus. S. Flaskekroen; Møen Ulfshale. *Dianthus sp.* S. Charlottenlund (O. R.), Landbohøjskolens Have.

2227. **Vermicularia polytricha** Cooke, Syll. III [226].
Onobrychis sativa. Møen. Stengaarden. June.

2228. **Vermicularia dematium** Fries, Syll. III [225], All. VI [495], Stivhaaret Støvkugle (H. 37 [869]).
Common, on dead leaves and stems of many species of plants, May—September. Recorded on *Urtica dioeca, Berteroa incana, Brassica napus, Malva moschata, Euphorbia dulcis, Myrrhis odorata, Anthriscus silvester, Heracleum sphondylium, Laserpitium latifolium, Monotropa hypopitys, Centaurea montana.*

Dothiorella.

The formgenus Dothiorella is very close connected with Sphaeronema and like this formgenus a mixture of the conidial forms of different ascomycetous genera, especially of Tympanis, Botryosphaeria, Dothiora and Otthia viz:

Dothiorella	stromatica	corresp. to	Tympanis conspersa (v. Höhnel 06 a [675]).
—	inversa	—	— alnea (v. Höhnel 06 a [675]).
—	Tulasnei	—	Chlorosplenium aeruginosum (v. Höhnel 11 a [463]).
—	pinastri	—	Phacidium lacerum.
—	latitans	—	— vaccinii (Rehm III [69], Vleugel 11 [339]).

Dothiorella sphaeroides corresp. to Dothiora sphaeroides.

—	pyrenophora var salicis	—	salicis (Vleugel).
—	juniperi	—	Clithris juniperi (Karsten).
—	ribis	—	Dothidea ribesia.
—	advena	—	Botryosphaeria advena (see v. Höhnel 11 a [464]).
—	Berengeriana	—	— Berengeriana(Sacc.).
—	corylina	—	Otthia corylina (see Karsten 90 [453]).
—	populicola	—	— diminuta.
—	populina	—	— populina.
—	frangulae	—	Cucurbitaria rhamni (see Jaap exsicc. no 542).
—	gregaria	—	Physalospora gregaria (Saccardo).

2229. **Dothiorella pitya** Sacc., Syll. III [241], All. VI [519] c. icon.
On the twigs of *Abies alba*. J. Klokkedalen ($^{8}/_{5}$ 02!).

2230. **Dothiorella populina** Karsten, Syll. X [232], All. VI [525].
Populus deltoides. B. Almindingen.

2231. **Dothiorella sphaeroides** (Fries) R 02 a, Syn: Dothidea sphaer. Fries S. M. II [552], Dothiora sphaer. Cooke, Botryodiplodia sphaer. Sacc., Syll. III [379], All. VII [184], Dothiorella populea Sacc., Syll. III [237], All. VI [525].

It must be noticed that Persoon and Fries have described this species as having occurred on Populus, but on account of a misprinting (ash instead of asp) Cooke has caused Saccardo and others to believe that this fungus should live on Fraxinus.

Rostrup has described the ruinous attack of this fungus on Populus particularly in the years 1880—83; still he does not ascribe the whole damage to the fungus, but he also believes that the weather must be blamed for the destruction of the Italian poplars (R 83 c).

Sporidiis ovatis, hyalinis 9—13 μ × 5—7 μ.
Populus tremula. F. Klingstrup. *Populus laurifolia*. F. Tange Skov; S. Charlottenlund. *Populus pyramidalis*, common.

2232. **Dothiorella gregaria** Sacc., Syll. III [236], All. VI [520].
Populus alba × *tremula*. S. Helene Kilde. July.

2233. **Dothiorella betulae** (Preuss) Sacc., Syll. III [236], All. VI [519], Syn: Dot. pyrenophora (Karsten) Sacc., f. betulae Karsten 84 a, Syll. III [238].

Sporidiis ellipsoideo-lanciformibus, rectis, hyalinis, eguttulatis, 7—8 μ × 2—3 μ.
Betula alba. J. Aal. (May 99 E. W.).

2234. **Dothiorella stromatica** (Preuss) Sacc., Syll. III [237], All. VI [526], Syn: Dot. multiplex (Preuss) Sacc., Syll. III [237], All. VI [529], Syn: Dot. caespitosa (Preuss) Sacc., Syll. III [238], All. VI [529].

Sorbus aucuparia. S. Svenstrup ([23]/6 89).

2235. **Dothiorella latitans** (Fries) Sacc., Syll. III [241], All. VI [531], Syn: Phyllachora lat. Sacc., Syll. III [60].

Sporidiis curvatis, hyalinis, 12—14 μ × 2—3,5 μ, 1-sept., basidiis ramosis.

Vaccinium vitis idaea. J. Mariager!, Viborg!, Borris (F. & W. 08); S. Maglemose (H. E. Petersen). *Oxycoccus palustris.* J. Bruunshaab!; S. Lyngby Mose!.

2236. **Dothiorella fraxinea** Sacc., Syll. III [236], All. VI [521] c. icon.

Fraxinus excelsior. S. Forsthaven.

Rabenhorstia.

2237. **Rabenhorstia rudis** Fries, Syll. III [243], All. VI [533].

Cytisus laburnum. S. Charlottenlund.

2238. **Rabenhorstia tiliae** Fries S. V. [410], Syll. III [240], All. VI [534], Syn: Sphaeria tiliae Fries S. M. II [485].

Is the conidial stage of Hercospora tiliae.

Tilia europaeae, common.

Fuckelia.

2239. **Fuckelia ribis** Bon., Syll. III [244], All. VI [535].

On dead twigs of *Ribes rubrum.* S. København ([13]/5 81 Sarauw).

Placosphaeria.

Placosphaeria is in many respects very close connected with Dothiorella and Fusicoccum. The formspecies of Placosphaeria are usually considered to form the conidial stages of the species of Dothideales see pag. 180.

2240. **Placosphaeria rimosa** Ouds., Syll. X [237], All. VI [543].

Arundo phragmites. S. Brønshøj.

2241. **Placosphaeria dothideoides** (Mont.) Sacc., Syll. III [216], All. VI [543].

Arundo phragmites. J. Snaptun ([10]/9 01!).

2242. **Placosphaeria graminis** Sacc. & Roum., Syll. III [246], All. VI [536].

Aira flexuosa. J. Hald!; B. Almindingen (R 99 a [266]). *Agrostis alba.* J. Viborg (! Exs. Kab. & Bub. no 260).

2243. **Placosphaeria urticae** (Lib.) Sacc., Syll. X [236], All. VI [545].
On stems of *Urtica dioeca*. J. Viborg (! Exs. Kab. & Bub. no 357), Horsens (! [18]/5 02); Møens Klint!.

2244. **Placosphaeria stellariae** (Lib.) Sacc., Syll. III [245], All. VI [539].
On fading leaves of *Stellaria holostea*. J. Bruddal ([10]/8 02!).

2245. **Placosphaeria sedi** (Fries) Sacc., Syll. III [245], All. VI [544], Syn: Ectostroma sedi Fries S. M. II [602].
In living leaves and stems of *Sedum maximum* & *purpureum*, common.

2246. **Placosphaeria clypeata** Bres. & Har., Syll. X [234], All. VI [544].
On dead stems of *Filipendula ulmaria*. J. Gadholt ([10]/7 06!).

2247. **Placosphaeria genistae** Brunaud, Syll. X [235], All. VI [541].
On twigs of *Genista anglica*. J. Flyndersø (Sept. 07 C. H. O. see F. & W. 09 [316]).

2248. **Placosphaeria punctiformis** (Fuckel) Sacc., Syll. VIII [727], All. VI [540], Syn: Depazea asperulae Lasch, Syll. III [63].
On living leaves of *Asperula odorata*. J. Gedved (Jeppesen), Horsens!; F. Skaarup ([23]/11 73); Thorseng Horse Skov; S. Slagslunde (! Exs. Kab. & Bub. no 554), Basnæs (P. N.); L. Stensgaard.

Fusicoccum.

2249. **Fusicoccum galericulatum** (Tul.) Sacc., Syll. III [250], All. VI [552].
On twigs of *Fagus silvatica*. S. Karise. April.

Cytospora.

The forms of Cytospora correspond quite regularly to the species of Valsa (see pag. 237).

2250. **Cytospora taxifolia** Cooke & Massee, Syll. X [248], All. VI [608].
Taxus baccata. J. Fredrikshavn ([9]/11 07 V. S.).

2251. **Cytospora pinastri** Fries, Syll. III [275], All. VI [575].
Abies alba, Pinus silvestris & *montana, Cryptomeria japonica, Cupressus Lawsoniana*. Common.

2252. **Cytospora pithyophila** West., Syll. III [270], All. VI [574].
Abies alba. L. Roden Skov ([4]/9 06 C. V. Prytz).

2253. **Cytospora pini** Desm., Syll. III [270], All. VI [575].
Pinus strobus. S. Geelskov. Every perithecium contains more than 400 millions of spores (Rostrup in herbario).

2254. **Cytospora Mougeotii** Lév., Syll. III [270], All. VI [575].
Pinus strobus. S. Geelskov ([12]/2 92 O. R.).

2255. **Cytospora Curreyi** Sacc., Syll. III [269], All. VI [573], Lind 07 c [275].
Pinus strobus. J. Geelskov (Exs. Vgr. no 1337 and Kab. & Bub. no 507); S. Geelskov ([12]/2 91 O. R.).

2256. **Cytospora abietis** Sacc., Syll. III [269], All. VI [573].
Larix decidua. Falst. Østerskov.

2257. **Cytospora fugax** Fries S. M. II [542], Syll. III [263], All. VI [576 605].
Salix caprea. S. Geelskov (Sept. 91 O. R.).

2258. **Cytospora dolosa** Sacc., Syll. III [260], All. VI [601].
Salix caprea. S. Ruderhegn ([26]/4 91 O. R.).

2259. **Cytospora personata** Fries, Syll. III [267], All. VI [570], Syn: Sphaeria pers. Fries S. M. II [485].
Frangula alnus. J. Knivholt ([28]/7 06!).

2260. **Cytospora salicis** (Cda) Rabenhorst, Syll. III [261], All. VI [603].
Very common on twigs of *Salix purpurea, cinerea, alba* × *fragilis, daphnoides.*

2261. **Cytospora translucens** Sacc., Syll. III [261], All. VI [602].
Salix daphnoides. S. Lersøen. May.

2262. **Cytospora atronitens** Chev., Syll. III [262], All. VI [605].
Salix viminalis. S. Fredriksborg ([28]/5 08!).

2263. **Cytospora nivea** (Fries) Sacc., Syll. III [260], All. VI [590], Syn: Sphaeria nivea Pers., Fries S. M. II [386].
Populus tremula. Common. *Populus canadensis.* L.

2264. **Cytospora chrysosperma** Fries S. M. II [542], Syll. III [260], All. VI [591], Guldfrøet Støvblære (H. 37 [871]).
Populus canadensis. J. Skive!; S. København. *Populus pyramidalis.* F. Svenborg. L.

2265. **Cytospora occulta** Sacc., Syll. III [258], All. VI [568].
Alnus glutinosa. B. Almindingen.

2266. **Cytospora Fuckelii** Sacc., Syll. III [263], All. VI [577].
Corylus avellana. S. Ermelunden (March 03 O. R.), Hammer!.

2267. **Cytospora ambiens** Sacc., Syll. III [268], All. VI [567].
Very common on diseased twigs of a large number of plants. *Populus pyramidalis, Betula alba, Alnus glutinosa, Corylus, Fagus, Ulmus, Acer, Pirus malus, Cornus alba & sanguinea, Fraxinus excelsior.*

2268. **Cytospora pustulata** Sacc. & Roum., Syll. III [267], All. VI [581], Syn: Sphaeria clausa Schum. no 1275.
Fagus silvatica, common.

2269. **Cytospora atra** (Bon.) Sacc., Syll. III [257], All. VI [586].
Morus rosea. S. Landbohøjskolens Have.

2270. **Cytospora tiliae** Sacc., Syll. III [274], All. VI [609].
Tilia europaea. J. Krabbesholm Skov ($^{8}/_{3}$ 06!).

2271. **Cytospora pseudoplatani** Sacc., Syll. III [258], All. VI [565].
Acer pseudoplatanus. F. Faaborg (J. J. Hansen).

2272. **Cytospora hippophaës** Thümen, Syll. III [274], All. VI [583].
Hippophaës rhamnoides. J. Fredrikshavn (V. S. $^{9}/_{11}$ 08).

2273. **Cytospora clypeata** Sacc., Syll. III [252], All. VI [600].
Rubus idaeus. J. Viborg ($^{1}/_{4}$ 04!).

2274. **Cytospora cincta** Sacc., subsp. **amygdalina** Karsten, Syll. X [244], All. VI [569].
Amygdalus communis. S. Landbohøjskolens Have.

2275. **Cytospora cincta** Sacc., Syll. III [254], All. VI [593].
Prunus domestica. F. Tangegaard (H. Sehested). *Cerasus avium*. S. Fredriksborg.

2276. **Cytospora leucostoma** (Fries) Sacc., Syll. III [254], All. VI [592], Syn: Sphaeria leuc. Pers., Fries S. M. II [387].
Cerasus avium. S. Helene Kilde ($^{3}/_{7}$ 98), Landbohøjskolens Have.

2277. **Cytospora carphosperma** Fries S. M. II [543], Syll. III [274], All. VI [588], Haardfrøet Støvblære (H. 37 [871]).
Pirus malus. J. Nebsager (July 92 O. R.); F. Skaarup; S. Landbohøjskolens Have. *Pirus communis*. F. Skaarup; S. Landbohøjskolens Have. *Tilia europaea*. L. Stensgaard.

2278. **Cytospora piricola** West., Syll. III [276], All. VI [589].
Pirus malus. S. København ($^{31}/_{3}$). Abundantly on the fruit.

2279. **Cytospora microspora** (Cda.) Rabenhorst, Syll. III [253], All. VI [578].
Cydonia japonica and *Crataegus monogyna*. S. Landbohøjskolens Have. *Sorbus aucuparia*. J. Flade near Fredrikshavn ($^{27}/_{7}$ 06!). *Cerasus avium*. S. Landbohøjskolens Have.

2280. **Cytospora rubescens** Fries, Syll. III [253], All. VI [588].
Cerasus avium. S. Fredriksborg Højskole!. *Prunus armeniaca* (R 06 j). *Sorbus aucuparia*. S. København (June 89 O. R.).

2281. **Cytospora cotoneastri** Thümen, Syll. III [255].
Cotoneaster affinis and *Cot. nummularius*. S. Landbohøjskolens Have. (New for Europe).

2282. **Cytospora oxyacanthae** Rab., Syll. III [255], All. VI [579].
Crataegus monogyna. S. Sorgenfri.

2283. **Cytospora sarothamni** Sacc., Syll. III [272], All. VI [606].
Sarothamnus scoparius. J. Tværsted Plantage.

2284. **Cytospora robiniae** Schw., Syll. III [271], All. VI [599].
Robinia pseudacacia. J. Haveselskabets Have, Aarhus [28/7] 07!.

2285. **Cytospora corni** West., Syll. X [246], All. VI [576].
Cornus alba. S. København. *Cornus sanguinea*. S. Sorgenfri (O. R.), København!; L. Stensgaard.

2286. **Cytospora asperulae** Delacroix, Syll. X [248], All. VI [570].
Asperula odorata. J. Boller ([20/8] 01!).

Ceuthospora.

2287. **Ceuthospora lycopodii** Lind 05 c. icon., Syn: Phoma lycopodii R 06 dd.
Lycopodium annotinum. J. Viborg ([1/4] 05!). *Lycopodium chamaecyparissus*. B. Almindingen ([15/6] 1850 Th. Schjøtz).

2288. **Ceuthospora melaleuca** F. & W. 07 [254] c. icon.
On fallen leaves of *Ginkgo biloba*. S. Botanisk Have (F. & W. Febr. 07).

2289. **Ceuthospora atra** Lind 07 c [276].
On fallen leaves of *Fagus silvatica*. J. Silkeborg (! March 07).

2290. **Ceuthospora liriodendri** West., Syll. III [279], All. VI [616].
Liriodendron tulipifera. S. København ([14/12] 06 see F. & W. 09 [316]).

2291. **Ceuthospora Feurichii** Bubak 06 c [115].
The mycelium is penetrating the host-plant. Sporidiis 20 μ × 3 μ.
Vinca minor. J. Borris Kirkegaard ([6/2] 1912!).

Pyrenochaeta.

Fuckel is regarding the forms of Pyrenochaeta as corresponding to different species of Sphaeriales for instance:

Pyrenochaeta	rhenana	corresp. to	Herpotrichia rhenana.
—	tarda	—	Trichosphaeria tarda.
—	exosporioides	—	Niesslia exosporioides.
—	hirta	—	Massaria hirta.

The systematic place of Pyrenochaeta is very disputed, I will therefore place it here as an appendix to Sphaerioidaceae-Hyalosporae.

2292. **Pyrenochaeta furfuracea** (Fries) Rostrup 02 a [571] c. icon., Syn: Periola furf. Fries El. II [46], Syll. IV [681].

Under the specific name given above a fruit decay of apples has become described by Rostrup. The pycnidial pustules may appear within a small circular spot and later on spreading until the whole apple may be involved (see fig. 32). The pycnidia are erumpent and they appear in cross section somewhat depressed-conical at the apex. The spores are elliptical, hyaline and measure 8—10 μ × 4—5 μ.

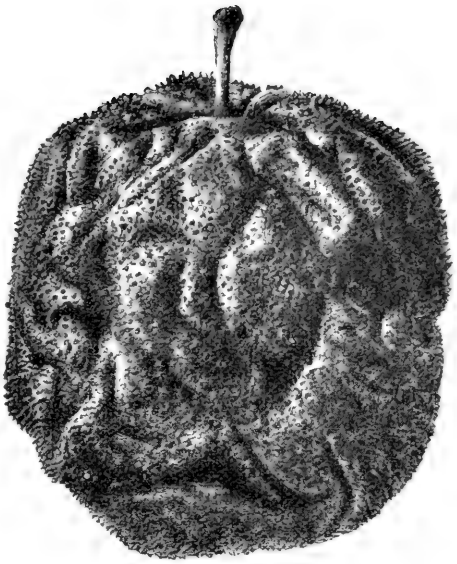


Fig. 32. Pyrenochaeta furfuracea (Fries) Rostrup.
An apple with pycnidia. From R 02 a.

Rare. København. March.

Sphaerioidaceae—Phaeosporae.

Coniothyrium.

Some species of Coniothyrium would seem to be imperfect stages of Leptosphaeria; and others have been found associated with still other ascigerous forms, vize:

Coniothyrium	Fuckelii	corresp. to	Leptosphaeria coniothyrium (see Fuckel and Stewart 10 [387]).
—	vagabundum	—	Leptosphaeria vagabunda (Sacc.).
—	castagnei	—	— castagnei (Fuckel).
—	diplodiella	—	Charinia diplodiella.
—	eurotioides	—	Letendrea eurotioides (All. VII [52]).
—	melaspora	—	Trichosphaeria sacchari.

2293. **Coniothyrium epimyces** Sacc. & Speg., Syll. III [319], All. VI [47]. *Aleuria aurantia*. S. Vestre Kirkegaard ([19]/10 05 O. R.).

2294. **Coniothyrium myriocarpum** (Fries) Sacc., Syll. III [315], All. VII [59], Syn: Sphaeria myr. Fries S. M. II [459], Sphaeria atomus Schum. no 1285.
On dead wood. S. (Schum.).

2295. **Coniothyrium concentricum** (Desm.) Sacc., Syll. III [317], All. VII [35], R 02 a [572].
April—Sept. *Yucca filamentosa*. S. Landbohøjskolens Have, Haveselskabets Have. *Yucca gloriosa*. L. Halsted.

2296. **Coniothyrium agaves** (Mont.) Sacc., Syll. III [318], All. VII [24].
Agave americana. S. Landbohøjskolens Have, Haveselskabets Have.

2297. **Coniothyrium hellebori** Cooke & Massee, Syll. X [261], All. VII [39], Syn: Con. olympicum All. VII [40], Con. Delacroixii Sacc., Syll. X [261], All. VII [39], R 02 a [572], Septoria hellebori Thümen, Syll. III [524] & XVI [956], All. VI [882] & VII [894] (see v. Höhnel 05).
Very common and rather noxious on leaves of *Helleborus niger* & *viridis* in the gardens, August—May (R 99 a [268]).

2298. **Coniothyrium vagabundum** Sacc., Syll. III [310], All. VII [33].
Hypericum pulchrum. F. Kirkeby Hede ($^{19}/_{7}$ 83).

2299. **Coniothyrium ribis** Brunaud, Syll. X [263], All. VII [51], R 05 t.
On twigs of *Ribes grossularia*.

2300. **Coniothyrium Wernsdorffiae** Laubert 07 b, Syll. XVIII [303], Krüger 08 [157] c. icon., Lind 10 k.
A true parasite, attacking the bark of the branches of cultivated *Rosa* spp., for the first time found $^{11}/_{6}$ 03, quite common.

2301. **Coniothyrium Fuckelii** Saccardo, Syll. III [306], All. VII [41].
On branches of *Rubus idaeus*. S. Førslevgaard ($^{29}/_{8}$ 11!).

2302. **Coniothyrium subolivaceum** Saccardo, Syll. III [316], All. VII [42].
Lupinus polyphyllus. S. Landbohøjskolens Have ($^{8}/_{10}$ 92).

2303. **Coniothyrium sphaerospermum** Fuckel, Syll. III [308], All. VII [34].
Cytisus sagittalis. S. Landbohøjskolens Have. April.

2304. **Coniothyrium sarothamni** (Thümen) Sacc., Syll. III [308], All. VII [55].
Sarothamnus scoparius. J. Tirslund.

2305. **Coniothyrium olivaceum** Bonorden, Syll. III [305], All. VII [26].
Sarothamnus scoparius. J. Horsens!: S. Tystofte!. *Caragana arborescens*. J.

Horsens!. *Magnolia grandiflora*. S. Landbohøjskolens Have. *Myricaria germanica*. S. Tystofte!.

2306. **Coniothyrium hederae** (Desm.) Sacc., Syll. III [307], All. VII [39].
On leaves of *Hedera colchica*. F. Odense ([24]/7 85). *Hedera helix*. J. Horsens!; F. Odense, Skaarup.

Chaetomella.

2307. **Chaetomella atra** Fuckel, Syll. III [321], All. VII [65].
Carex arenaria. J. Lodbjerg Klit. August.

Sphaeropsis.

2308. **Sphaeropsis pinastri** (Léveillé) Sacc., Syll. III [300].
Pinus austriaca. J. Gaardbogaard (see R 83 d).

Haplosporella.

2309. **Haplosporella conglobata** (Sacc.) All. VII [70], Syn: Sphaeropsis cong. Sacc., Syll. III [299].
Is surely the conidial fructification of Rosellinia congl. (see Vleugel 08 b [382]).
On bark of *Betula verrucosa*. S. Bidstrup Mose (O. R. Octob. 97).

Sphaerioidaceae—Hyalodidymae.

Ascochyta.

2310. **Ascochyta teretiuscula** Sacc. & Roum., Syll. III [405], All. VI [651].
Luzula pilosa. J. Horsens ([8]/9 01!).

2311. **Ascochyta graminicola** Sacc., Syll. III [407], All. VI [644], R 02 a [573].
Agrostis vulgaris. J. Feldborg. Bromus tectorum. S. Landbohøjskolen. *Bromus arvensis*. F. Christiansminde ([23]/9 82). *Bromus mollis*. S. Lyngby (Anton Christensen). *Secale cereale*. S. Hornbæk. *Lolium perenne*. S. Klampenborg, Christiansholm (O. R.).

2312. **Ascochyta armoraciae** Fuckel, Syll. III [397], All. VI [630].
Roripa armoracia. J. Skive ([1]/10 99!).

2313. **Ascochyta destructiva** (Desm.) Kab. & Bub., Syll. XVIII [340], Syn: Phyllosticta dest. Desm., Syll. III [40], All. VI [55].
Malva nigrescens. S. Strandmøllen (St. Nyeland).

2314. **Ascochyta althaeina** Sacc. & Bizz., Syll. III [399], All. VI [628].
Althaea rosea. S. Landbohøjskolens Have, November.

2315. **Ascochyta sempervivi** Fautrey, Syll. X [304], All. VI [698].
On the leaves and stems of *Sempervivum tectorum*. S. Landbohøjskolens Have.

2316. **Ascochyta philadelphi** Sacc. & Speg., Syll. III [386], All. VI [656].
Philadelphus coronarius. S. Lyngby (K. H.).

2317. **Ascochyta pisi** Libert, Syll. III [397] & XI [523], All. VI [658], Syn: Asc. onobrychidis R 02 c [124], Ærternes Askokyta (Lind & Ravn 10 [71]).
Pisum sativum & *arvense* common. *Melilotus albus* S. Lyngby (K. H.). *Onobrychis viciaefolia*. J. Feldborg; S. Lyngby (M. L. M.), Ringsted!, Lerchenfeldt; Møen Stengaarden. *Trifolium pratense*. S. Øresundshøj.

2318. **Ascochyta viciae** Libert, Syll. X [303], All. VI [668].
Vicia villosa. J. Askov (Fr. Hansen); S. Lyngby, Landbohøjskolen.

2319. **Ascochyta Bolthauseri** Sacc., Syll. X [303], All. VI [656], R 99 d [43].
Vicia faba. S. Lyngby ($^{6}/_{6}$ 98).

2320. **Ascochyta phaceolorum** Sacc., Syll. III [398], All. VI [656], R 02 a [573].
Sporidiis cylindraceis, utrinque rotundatis, 2-guttulatis, 1—2 septatis, 20—25 µ × 6—8 µ.
Phaceolus vulgaris. J. Birkebæk!; S. Lyngby (K. H.).

2321. **Ascochyta lathyri** Trail, Syll. X [303], All. VI [648].
Lathyrus Nisalsa. S. Lyngby (K. H.).

2322. **Ascochyta medicaginis** Bres., Syll. XVI [928], All. VII [876].
Medicago sativa. S. Lerchenfeldt (Holm).

2323. **Ascochyta rhododendri** spec. nov.
Maculis epiphyllis, candicantibus, plerumque angulatis, c. 1 cm diam. Peritheciis minutis, c. 200 µ diam., lenticularibus, innatis, late pertusis, contextu parenchymatico, olivaceo. Sporulis oblonge-ellipticis, 1-septatis, loculis aequalibus, ad septum haud constrictis, 13—16 µ × 3—5 µ; basidiis bacillaribus, hyalinis 8 µ × 2 µ. In foliis emortuis vel semiemortuis.
Rhododendron cult. S. Forsthaven ($^{17}/_{5}$ 98), Landbohøjskolens Have ($^{24}/_{4}$ 93).

2324. **Ascochyta lycopersici** Brunaud, Syll. X [304], All. VI [664].
On leaves and stems of *Solanum lycopersicum*. F. Odense; Am. Taarnby (Suhr).

2325. **Ascochyta daturae** Saccardo, Syll. III [402], All. VI [640].
Datura stramonium. S. Lyngby (K. H.).

2326. **Ascochyta lycii** Rostrup 05 b [311].

Maculis cinereis, fusco-limbatis; peritheciis numerosis, fuscis; conidiis oblongis, saepe curvulis, 1-septatis, 9—12 μ × 3,5—4 μ, hyalinis.
In the leaves of *Lycium halimifolium*. L. Stensgaard.

2327. **Ascochyta polemonii** Cavara, Syll. XVI [932], All. VII [878], Syn: Asc. polemonii Rostrup 05 b [311], Syll. XVIII [341].
On stems and leaves of *Polemonium coeruleum*. S. Landbohøjskolens Have ($^{1}/_{10}$ 92).

2328. **Ascochyta plantaginis** Sacc. & Speg., Syll. III [403], All. VI [659].
Plantago major. S. Damhussøen; Falst. Stubbekøbing ($^{26}/_{7}$ 98).

2329. **Ascochyta syringae** Bresadola, Syll. XI [524], All. VI [666].
On living leaves of *Syringa vulgaris*. J. Horsens ($^{24}/_{10}$ 01!).

2330. **Ascochyta oleandri** Saccardo, Syll. III [392], All. VI [653].
Nerium oleander. L. Halsted.

2331. **Ascochyta menyanthis** Ouds., Syll. XVI [932], All. VII [876].
Sporidiis cylindraceis, utrinque rotundatis, hyalinis, 4 guttulatis, 1-septatis, non constrictis, 16—20 μ × 4 μ.
Menyanthes trifoliata. S. Gammelmosen. Sept.—Octob.

2332. **Ascochyta viburni** (Roum.) Sacc., Syll. III [387], All. VI [667].
Viburnum opulus. S. Arresø, Fredriksdal, Slagelse; Falst. Stubbekøbing.

2333. **Ascochyta lactucae** Ouds., Syn: Diplodina lactucae (Ouds.) Sacc., Syll. XVI, All. VII [882], Ascochyta lactucae Rostrup in Thüm. Myc. no 2095, Syll. X [305], All. VI [672], R 02 a [573].
On living leaves and stems of *Lactuca sativa*. F. Skaarup; S. København.

2334. **Ascochyta scorzonerae** Rostrup 05 b [312], Syll. XVIII [344].
Maculis irregularibus, brunneis, fusco-cinctis; peritheciis sparsis, innatis, fuscis, conidiis ovoideo-oblongis, 1-septatis, 7—9 μ × 3—4 μ, hyalinis.
On living leaves of *Scorzonera hispanica*. S. Lyngby (K. H.).

Diplodina.

2335. **Diplodina junci** Ouds., Syll. XVII [354], Syn: Stagonospora juncicola Rostrup 05 b [312], Syll. XVII [360], Diplodina juncicola (R.) Lind 07 c, Lit: F. & W. 09 [314].
Juncus Gerardi. J. Skive ($^{19}/_{6}$ 02!), Horsens!. *Juncus squarrosus*. J. Skive!, Borris (F. & W. 07 [255]).

2336. **Diplodina arundinacea** Saccardo, Syll. III [413], All. VI [692].
Arundo phragmites. S. Utterslev Mose (May 03 O. R.).

2337. **Diplodina salicis** Westendorp, Syll. III [411], All. VI [695].
Salix viminalis. L. Sakskøbing. July.

2338. **Diplodina populi** (Delacroix) All. VI [692], Syll. X [300].
Populus alba. S. Hornbæk ([27]/5 01). *Populus pyramidalis.* S. Vanløse.

2339. **Diplodina berberidina** (Sacc.) All. VI [680], Syll. III [395].
Berberis vulgaris. F. Skaarup. May.

2340. **Diplodina evonymi** (Ouds.) All. VI. [686], Syll. XI [523] & All. XIV [947].
Evonymus europaeus. F. Aabymark.

2341. **Diplodina grossulariae** Sacc. & Briand, Syll. X [313], All. VI [693].
Ribes grossularia. J. Horsens (K. Rasmussen); S. Eriksholm (Tjørnelund).

2342. **Diplodina lysimachiae** (Ouds.) Sacc. & Sydow, Syll. XVI [939], All. VII [882].
Lysimachia thyrsiflora. J. Rindsholm (Febr. 05 ! see Lind 07 c [276]).

2343. **Diplodina solani** (Ouds.) All. VI [698], Syll. X [304].
Solanum tuberosum. S. Landbohøjskolens Have.

2344. **Diplodina deformis** (Karsten) Sacc., Syll. III [413], All. VI [696].
Sambucus nigra. F. Skaarup.

2345. **Diplodina millefolii** (Ouds.) All. VI [676], Syll. XI [524].
On dead stems of *Achillea millefolium.* J. Hjørring (V. S. [2]/12 07).

Darluca.

2346. **Darluca filum** (Bivon) Cast., Syll. III [410], All. VI [704].
Parasitical in many different Uredineae viz: *Pucc. arrenatheri, Pucc. crepidis praemorsae, Pucc. prenanthis, Pucc. anemones, Pucc. anomala* (see R 99 c [117]), *Pucc. phlei pratensis, Pucc. holcina, Pucc. gibberosa, Pucc. caricis, Pucc. punctata, Aecidium paridis, Uredo airae, Chrysomyxa abietis* etc.

Cytodiplospora.

2347. **Cytodiplospora betulae** Ouds., Syll. XVI [942], All. VII [886], Syn: Diplodinae betulae Rostrup 06 dd [379] (nom. nudum).
Betula pubescens. B. Graneli ([6]/7 85).

Spaerioidaceae—Phaeodidymae.

Microdiplodia.

2348. **Microdiplodia narthecii** (B. R. S.) All. VII [89], Syn: Diplodia nart. Bom. Rous. Sacc., Syll. X [291].

Narthecium ossifragum, common upon withered flower-stalks and inflorescenses. J. Borris (F. & W. 07 [255]).

2349. **Microdiplodia betulae** (West.)!, Syn: Diplodia bet. Westendorp, Syll. III [355], All. VII [107], see tab. VIII.

Peritheciis rotundatis vel ellipticis 150—200 μ × 120—140 μ. Sporidiis numerosis, ellipticis, fuscis, 10—14 μ × 6—7 μ denique 1-septatis, medio constrictis.

On old bark of *Betula alba*.

2350. **Microdiplodia microsporella** (Sacc.) All. VII [79], Syn: Diplodia mic. Sacc., Syll. III [357].

On twigs of *Acer campestre*. L. Stensgaard. June.

Diplodia.

Many form-species of Diplodia represent special stages in the life cycles of species of Cucurbitariaceae (see pag. 194).

2351. **Diplodia juniperi** Westendorp, Syll. III [355], All. VII [131].

On dead twigs of *Juniperus communis*. F. Klingstrup. May.

2352. **Diplodia taxi** (Fries) de Not., Syll. III [359], All. VII [165], Syn: Sphaeria taxi Fries S. M. II [500].

Sporulis atrofuscis, ovato-lanceolatis, 20—30 μ × 12 μ, 1-sept., pedicellis hyalinis.

On dead leaves of *Taxus baccata*. J. Horsens ($^{24}/_{10}$ 01!), in interglacial deposits by Eistrup (see Hartz 09 [228]).

2353. **Diplodia virginiana** Cooke & Ravenel, Syll. III [356].

On twigs of *Juniperus virginiana*. F. Wedellsborg (May 98).

2354. **Diplodia sapinea** (Fries) Fuckel, Syll. III [356], All. VII [97], Syn: Sphaeria sapinea Fries S. M. II [491].

On twigs of *Pinus montana*. J. Fredericia (C. Mariboe). October.

2355. **Diplodia juglandis** Fries S. V. [417], Syll. III [352], All. VII [130], Syn: Sphaeria jug. Fries S. M. II [493].

On dead twigs of *Juglans regia*. S. Herlufmagle ($^{20}/_{11}$ 01 N. C. Petersen). *Juglans cinerea*. J. Viborg (Gad).

2356. **Diplodia melaena** Lév., Syll. III [349], All. VII [168], R 02 a [578].

A true parasite, attacking the twigs of *Ulmus montana*. S. Lynge ($^{24}/_{8}$ 00).

2357. **Diplodia tiliae** Fuckel, Syll. III [330], All. VII [167].

On dead twigs of *Tilia europaea*. J. Skive ($^{29}/_{4}$ 04!).

2358. **Diplodia atrata** (Desmazières) Sacc., Syll. III [331], All. VI [99].

Acer negundo. J. Viborg!; F. Skaarup.

2359. **Diplodia subtecta** Fries S. V. [417], Syll. III [331], All. VII [99].
On dead branches of *Acer pseudoplatanus*. J. Marselisborg ([30]/12 07 see F. & W. 09 [316]).

2360. **Diplodia grossulariae** Sacc. & Schulzer, Syll. III [344], All. VII [154].
On dead twigs of *Ribes grossularia*. S. Østerbro ([13]/5 81 Sarauw).

2361. **Diplodia rubi** Fries S. V. [417], Syll. III [339], All. VII [157].
Rubus idaeus. S. Landbohøjskolens Have. November.

2362. **Diplodia Preussii** Saccardo, Syll. III [339], All. VII [158].
Peritheciis carbonaceis, atris, majusculis, dense congregatis, sporulis fuscis, 22—27 μ × 10—11 μ, 1-septatis, constrictis.
Rubus idaeus. J. Silkeborg ([9]/12 06!); S. Skelskør!. June.

2363. **Diplodia crataegi** Westendorp, Syll. III [340], All. VII [118].
Peritheciis 500 μ diam. Sporulis atrofuscis, 20—28 μ × 9—12 μ, 1-septatis, constrictis, conidiophoris obtusis, hyalinis, 7 μ × 4 μ.
On dead twigs of *Crataegus monogyna*. F. Svenborg ([24]/2 11!).

2364. **Diplodia radiciperda** Thümen, Syll. III [341], All. VII [145], R 02 a [578].
Pirus communis. F. Tangegaard (July 91).

2365. **Diplodia rudis** Desmâzières, Syll. III [337], All. VII [119].
Cytisus laburnum. F. Tange ([30]/5 82).

2366. **Diplodia aristolochiae** Bres. & Krieger, Syll. XIV [936], All. VII [105], Syn: Dip. aristolochiae-siphonis Vgr. 97 [40], Syll. XIV [936], All. VII [105].
On dead twigs of *Aristolochia sipho*. J. Skive ([19]/6 02!).

2367. **Diplodia inquinans** Westendorp, Syll. III [346], All. VII [124].
Upon the bark of *Fraxinus excelsior*. J. Bruunshaab!; S. Forsthaven.

2368. **Diplodia deflectens** Karsten, Syll. III [345], All. VII [134].
On dead twigs of *Lonicera periclymenum*. F. Langesø. June.

Botryodiplodia.

2369. **Botryodiplodia fraxini** (Fries) Sacc., Syll. III [378], All. VII [184], Syn: Sphaeria frax. Fries S. M. II [493] pro parte, R 83 d [290].
Fraxinus excelsior. J. Gaardbogaard; F. Klingstrup, Skaarup; S. Slagslunde, Charlottenlund ([29]/1 82 Sarauw). *Fraxinus pubescens*. S. Jægersborg.

Sphaerioidaceae—Hyalophragmiae.

Stagonospora.

2370. **Stagonospora equisetina** Trail, Syll. X [337], All. VI [972].
Equisetum palustre. S. Bromme Sø ($^{6}/_{10}$ 01).

2371. **Stagonospora equisetaria** (Karsten)!, Syn: Septoria eq. Karsten, Hedwigia 1885 [73] & K. 90 [26], Stagonospora equiseti Fautrey, Syll. X [337], All. VI [973].
Equisetum fluviatile. S. Slangerup ($^{6}/_{10}$ 07!).

2372. **Stagonospora bufonia** Bresadola, Syll. XIV [963], All. VI [978].
Juncus bufonius. J. Horsens ($^{7}/_{12}$ 01!).

2373. **Stagonospora aquatica** Sacc., subsp. **lacustris** Sacc., Syll. III [452].
Scirpus lacustris. S. Lystrup!, Sjælsø (June 03 O. R.). *Scirpus caespitosus* (hosp. nov.). J. Borris (F. & W. 07).

2374. **Stagonospora caricis** (Ouds.) Saccardo, Syll. III [452], All. VI [969].
On withered leaves of *Carex silvatica*. F. Skaarup. May.

2375. **Stagonospora curvula** Bom. Rous. Sacc., Syll. X [337].
On straw of *Poa*. S. St. Hareskov (May 03 O. R.).

2376. **Stagonospora glyceriae** Roum. & Fautrey, Syll. XI [535], All. VI [975].
Glyceria aquatica. J. Uggerby Aa ($^{10}/_{7}$ 01!).

2377. **Stagonospora simplicior** Sacc. & Briand, Syll. X [336].
Arundo phragmites. S. Geelskov (April 03 O. R.).

2378. **Stagonospora dolosa** Sacc. & Roum., Syll. III [455], All. VI [980].
Arundo phragmites. S. Gribskov (O. R.), Gammelmose, Gaunø (June 89 O. R.); Falst. Virket (Exc. $^{24}/_{6}$ 11).

2379. **Stagonospora neglecta** (West.) Sacc., Syll. III [455].
Arundo phragmites. J. Hjarbæk ($^{4}/_{7}$ 01!).

2380. **Stagonospora arenaria** Saccardo, Syll. III [453], All. VI [972].
Sporulis cylindraceis, utrinque obtusis, hyalinis, 25—50 μ × 4—6 μ, 3-sept.
Arundo phragmites. S. Dronninggaard ($^{29}/_{10}$ 94). *Hordeum arenarium*. S. Gilleleje ($^{9}/_{6}$ 89 E. W.), Tisvilde.

2381. **Stagonospora vexata** Saccardo, Syll. III [455], All. VI [980].
Arundo phragmites. F. Lundeborg; S. Sjælsø (June 03 O. R.): B. Aarsdale (June 89 O. R.). *Aira flexuosa*. J. Jensgaard Skov!.

2382. **Stagonospora subseriata** (Desm.) Sacc., Syll. III [554], All. VI [979] c. icon.

Molinia coerulea. J. Skive!, Viborg!. *Festuca rubra.* J. Egebjerg; S. Gribsø (O. R.).

2383. **Stagonospora graminella** Saccardo, Syll. III [454].

Phalaris canariensis. S. København. October.

2384. **Stagonospora typhoidearum** (Desmazières) Sacc., Syll. III [451].

Typha latifolia. S. Geelskov (April 03).

2385. **Stagonospora sparganii** (Fuckel) Sacc., Syll. III [451], All. VI [989].

July. *Sparganium ramosum.* F. Skaarup.

2386. **Stagonospora orchidearum** (West.) Rostrup, Syn: Septoria orch. West., Syll. III [575], All. VI [808].

Orchis latifolius. J. Tannishus (Lind 02), Floutrup!. *Orchis maculatus.* J. Skive!. *Orchis incarnatus.* Floutrup!. *Epipactis latifolia.* J. Snaptun. *Platanthera bifolia.* J. Uggerby ([10]/7 01!).

2387. **Stagonospora atriplicis** (West.)!, Syn: Ascochyta atr. Lasch in Rabenh. Herbar. Myc. ed. I no 861, Asc. atr. Diedicke, Annal Mycol. 1904 [180], Asc. chenopodii Rostrup 05 b [311], Diplodina atriplicis Vgr. Syll. XIV [952], All. VI [679] c. icon., Dipl. chenopodii Karsten, Syll. X [315], All. VI [682], Depazea vagans f. atriplicicola Fries S. M. II [532], Phyllosticta atriplicis Westendorp, Bull. Acad. Brux. 1851, Phyll. atrip. Desm., Syll. III [54], All. VI [104], Phyll. chenopodii West., Syll. III [55], Septoria atrip. (West.) Fuckel, Syll. III [556], All. VI [737], Septoria chenopodii West., Syll. III [556], All. VI [756], Septoria Westendorpii Winter, Syll. X [380], All. VI [756], see tab. VI figg. 79 & 80.

Maculis epiphyllis, orbicularibus, arescendo pallentibus, flavo-marginatis; peritheciis numerosis, centralibus, initio fuscis, denique atris, sphaeroideis, contextu parenchymatico, 140 μ diam. Conidiis cylindraceo-oblongis, saepe inaequilateralibus, hyalinis, plasmate granuloso farctis, longe continuis, denique, 1—3-septatis, 20—28 μ × 4—5 μ.

In living leaves and stems of *Atriplex litorale.* J. Aarhus!, Horsens!. *Atriplex patulum.* F. Bjornemose. *Chenopodium murale.* S. Tisso. *Chenopodium album* & *glaucum.* J. Aarhus!.

2388. **Stagonospora artemisiae** Rostrup 05 b [312], Syll. XVIII [359].

Peritheciis numerosis, gregariis, erumpentibus; conidiis hyalinis, cylindraceis, 3-septatis, 22—32 μ × 3—4 μ, hyalinis.

On dead stems of *Artemisia campestris.* S. Hornbæk.

Mastomyces.

2389. **Mastomyces uberiformis** (Fries) Karsten 90 [34], Syn: Sphaeria ub. Fries S. M. II [491], Mastomyces Friesii Montagne, Syll. III [456] & XIV [41], All. VI [991].

On branches of *Ribes nigrum*. S. Ermelunden (O. R.), Sorø ($^{9}/_{4}$ 82 V. Sarauw).

Sphaerioideae—Phaeophragmiae.

Hendersonia.

The formgenus Hendersonia represents in its present limitation a mixture of conidial forms corresponding to species of Leptosphaeria, Massaria, Cucurbitaria etc. viz:

Hendersonia	luzulae	corresp. to	Leptosphaeria	epicalamia.
—	asparagi	—	—	punctoidea.
—	eustoma	—	—	eustoma.
—	Fuckelii	—	—	arundinacea.
—	carpini	—	Massaria	carpini.
—	carpinicola	—	—	carpinicola.
—	Desmazieri	—	—	platani.
—	hirta	—	—	hirta.
—	piriformis	—	—	loricata.
—	ulmi	—	—	foedans.
—	robiniae	—	Cucurbitaria	elongata.
—	solani	—	—	dulcamarae.
—	ulmea	—	—	ulmea.
—	trabicola	—	Strickeria	trabicola.
—	fusarioides	—	—	Kochii.
—	herpotricha	—	Ophiobolus	herpotrichus.

2390. **Hendersonia acuum** Karsten, Syll. X [324], All. VII [222].
Pinus montana. S. Holsteinborg. August.

2391. **Hendersonia conorum** Delacr. f. **thujae** Bäumler.
On cones of *Thuja*. J. Viborg ($^{12}/_{6}$ 03!).

2392. **Hendersonia luzulae** West., Syn: Stagonospora luz. Sacc., Syll. III [451], All. VII [216].
Luzulae multiflora. S. Gammelmosen (R 06 cc [357]).

2393. **Hendersonia sessilis** Montagne, Syll. III [436], All. VII [237].
Scirpus lacustris. S. Sjælsø (June 03 O. R.).

2394. **Hendersonia graminicola** Léveillé, Syll. III [438], All. VII [220].
Arundo phragmites. S. Gammelmose (R 06 cc).

2395. **Hendersonia phragmitis** Desmazières, Syll. III [437], All. VII [219].
Arundo phragmites. S. Ørholm (June 91 O. R.), Brøndshøj.

2396. **Hendersonia crastophila** Saccardo, Syll. III [438], All. VII [220].
Conidiis cylindraceis, utrinque obtusis, fuscis, 50 µ × 4 µ, 6—7-septatis.
On straw of *Calamagrostis arenaria*. J. Aalbæk ($^{31}/_{7}$ 06!).

2397. **Hendersonia piriformis** Otth., Syll. XIV [960], All. VII [206], Syn: Hend. loricata Sacc. & Roum., Syll. III [440].
On branches of *Fagus silvatica*. J. Marselisborg Skov ($^{12}/_{1}$ 08 Ø. W. see F. & W. 09 [316]).

2398. **Hendersonia sarmentorum** West., Syll. III [420], All. VII [191].
Conidiis ellipticis, fuscis, 12—13 µ × 5 µ, 1-sept., dénique 3-sept., ad septis constrictis.
Morus alba. S. Landbohøjskolens Have. *Rubus idaeus*. J. Nørlund (Kondrup). *Rubus fruticosus*. S. Hornbæk, Ruderhegn (O. R.). *Vitis vinifera*. S. Landbohøjskolens Have. *Campanula glomerata* (hosp. nov.). J. Buderupholm ($^{6}/_{7}$ 86).

2399. **Hendersonia foliorum** Fuckel, Syll. III [427], All. VII [204].
Peritheciis epiphyllis, maculis cinereis insidentibus, sporulis 12—16 µ × 5—7 µ, 3-septatis, loculis superioribus fuscis, loculo inferiore hyalino, sporophoris 12 µ × 1,5 µ.
Ribes alpinum. S. Lyngby ($^{3}/_{9}$ 97 K. H.).

2400. **Hendersonia canina** Brunaud, Syll. XIV [955], All. VII [232].
On thorns of *Rosa canina*. J. Søndermølle near Viborg ($^{6}/_{3}$ 03!).

2401. **Hendersonia Henriquesiana** Sacc. & Roum., Syll. III [427], All. VII [231] c. icon.
On hips of *Rosa canina*. J. Skovsgaard ($^{3}/_{5}$ 06!).

2402. **Hendersonia rosae** Kickx, Syll. X [319], All. VII [232].
On twigs of *Rosa canina*. J. Knivholt ($^{6}/_{7}$ 03!).

2403. **Hendersonia rubiginosa** Brunaud, Syll. XIV [955], All. VII [232].
On hips of *Rosa graveolens*. J. Tjele Langsø (C. H. O.).

2404. **Hendersonia rubi** (West.) Sacc., Syll. III [424], All. VII [232].
Rubus plicatus. J. Daugbjerg ($^{24}/_{9}$ 85). *Rubus radula*. J. Fredrikshavn!. S. Gladsaxe.

2405. **Hendersonia rubi** (West.) Sacc. f. **rubi idaei** Brun., Syll. X [321], All. VII [233].
On dead branches of *Rubus idaeus*. J. Viborg ([1]/5 04!).

2406. **Hendersonia rubi** (West.) Sacc. f. **lonicerae** Brun., Syll. X [321], All. VII [232].
Lonicera periclymenum. J. Rindsholm ([1]/5 04!).

2407. **Hendersonia vagans** Fuckel, Syll. III [419], All. VII [208].
Peritheciis gregariis vel caespitosis, erumpentibus. Conidiis ellipticis vel sub-pyriformibus, fuscis, 14—19 µ × 6—7 µ, 3-septatis, constrictis. Sporophoris cylindraceis, hyalinis 40 µ × 1,5 µ.
On twigs and branches of *Pirus communis*. J. Snepstrup (D. B.). *Crataegus monogyna*. F. Svenborg ([24]/2 11!).

2408. **Hendersonia piricola** Sacc., Syll. III [428], All. VII [222], R 99 a [267] & 02 a [578].
On leaves of *Pirus communis*. F. Glorup; S. Fredensborg, Næsbyholm.

2409. **Hendersonia epilobii** Fautrey, Syll. X [325], All. VII [206].
Epilobium angustifolium. J. Viborg ([16]/3 06!).

2410. **Hendersonia decipiens** Thümen, Syll. III [421], All. VII [201].
On dead twigs of *Cornus*. J. Skive ([20]/5 06!).

2411. **Hendersonia rhododendri** Thümen, Syll. III [429], All. VII [229].
On leaves of *Rhododendron*. S. Landbohøjskolens Have. April.

2412. **Hendersonia Peckii** Clinton, Syll. III [422].
Lonicera periclymenum. J. Nebsager (July 91 O. R.).

2413. **Hendersonia sambuci** Müller, Syll. III [422], All. VII [235].
Sambucus nigra. J. Horsens ([2]/3 02!); S. Eskemosegaard (O. R.).

Cryptostictis.

2414. **Cryptostictis caudata** (Preuss) Sacc., Syll. III [444], All. VII [253], R 84 i, 92 j, 02 a [578].
Rosa rubiginosa. F. Tangegaards Have (July 91). *Rosa canina*. J. Nørlund (Kondrup); S. Jonstrup Vang.

2415. **Cryptostictis cynosbati** (Fuckel) Sacc., Syll. III [443], All. VII [252] c. icon.
On hips of *Rosa canina*. F. Klingstrup. December.

Prosthemium.

2416. **Prosthemium betulinum** Fries S. M. III [484], Syll. III [444], All. VII [255] c. icon.

Is the conidial fructification of Pleomassaria siparia.
Betula verrucosa. S. Bagsværd ($^{6}/_{2}$ 09 F. & W. 09 [316]).

Sphaerioidaceae—Phaeodictyae.

Camarosporium.

The species of Camarosporium often correspond to species of Cucurbitaria (see pag. 195).

2417. **Camarosporium pithyum** Bom. Rous. Sacc., Syll. III [467], All. VII [260].
Thujopsis dolabrata (hosp. nov.). S. Landbohøjskolens Have. Sept.

2418. **Camarosporium salicinum** Bom. Rous. Sacc., Syll. III [465], All. VII [283].
Salix viminalis. J. Stensballesund ($^{3}/_{5}$ 02!). *Salix purpurea*. S. Vintappersøen (O. R.).

2419. **Camarosporium mori** Saccardo, Syll. III [464], All. VII [273].
Morus rosea. S. Landbohøjskolens Have.

2420. **Camarosporium ribis** Briand, Syll. X [341], All. VII [280].
Ribes alpinum. S. Landbohøjskolens Have.

2421. **Camarosporium aculeorum** Passerini, Syll. X [340], All. VII [281].
Rosa canina. J. Terndrup ($^{20}/_{4}$ 02!).

2422. **Camarosporium coronillae** Sacc. & Spegazzini, Syll. III [460], All. VII [264].
Coronilla emerus. S. Lyngby. May.

2423. **Camarosporium laburnicum** Saccardo, Syll. X [339], All. VII [265].
Cytisus laburnum. J. Viborg!; S. Helene Kilde.

2424. **Camarosporium pseudacaciae** Brunaud, Syll. X [339], All. VII [281].
Sporulis fuscis, oblonge-ellipticis, 3 (—4)-septatis, parum constrictis, 18—24 μ × 7—8 μ.
Robinia pseudacacia. S. Lampevejen (June 89 F. Holm).

2425. **Camarosporium lycii** Saccardo, Syll. III [467], All. VII [272].
Sporulis ellipsoideis, fuscis, 22—36 μ × 10—14 μ, 3 (—4)-septatis.
Lycium halimifolium. S. Fredrikssund!, Lystrup, Skelskor!; B. Hasle!.

2426. **Camarosporium Kriegeri** Bresadola, Syll. XIV [965], All. VII [287].

Sporulis fuscis, ellipsoideis 20—25 μ × 12 μ vel globosis c. 16 μ diam., 3—5-septatis.

On dead stems of *Tanacetum vulgare*. S. Køge ([21]/5 99).

2427. **Camarosporium aequivocum** (Pass.) Sacc., Syll. III [467], All. VII [260], Syn: Dichomera aeq. Passerini, Syll. X [348], All. VII [117—291].

It represents the conidial stage of Leptosphaeria caespitosa (see Bref. 91 [223]).

May—July. On dead stems of *Artemisia vulgaris*, common. *Artemisia campestris*. J. Klitmøller: S. Fredrikssund. *Artemisia maritima*. L. Billeje.

Sphaerioideae—Scolecosporae.

Septoria.

The life history of the numerous form-species of this form-genus has been accurately traced only as to a few forms. Many species are found all the year round and must be supposed to regenerate themselves. Other are known or supposed to be the conidial stages of species of Sphaeriales, viz:

Septoria	subradians	corresp.	Mycosphaerella	brunneola (see K. 90).
—	populi	—	—	populi (Bref. 91 [215]).
—	stellariae	—	—	isariphora.
—	ribis	—	—	ribis.
—	piricola	—	—	piri (Klebahn).
—	hederae	—	—	hedericola.
—	podagrariae	—	—	aegopodii (Potebnia 10[49])
—	rosae	—	Sphaerulina	Rehmiana.
—	phlogis	—	Leptosphaeria	phlogis (Bos 99 [29]).
—	ophiopogonis	—	—	ophiopogonis (Saccardo).
—	culmifida	—	—	culmifida (Lind 07 c [276]).
—	rudis	—	Ophiobolus	rudis.

2428. **Septoria thecicola** Berk. & Br., Syll. III [577], All. VI [833].

Polytrichum commune. J. Silkeborg ([20]/6 83 C. J. Johanson).

2429. **Septoria conigena** Sacc. & Roum., Syll. III [559], All. VI [719].

Pinus montana. B. Almindingen (R 06 dd [379]).

2430. **Septoria acuum** Ouds., Syll. X [360], All. VI [829].

Pinus montana. J. Fredericia.

2431. **Septoria alismatis** Ouds., Syll. III [569], All. VI [726].
Alisma plantago. F. Brobygaard ($^{1}/_{8}$ 97!).

2432. **Septoria caricis montanae** Vgr., Syll. XVIII [395].
Carex montana. J. Viborg ($^{10}/_{6}$ 04!).

2433. **Septoria punctoidea** Karsten, Syll. III [566], All. VI [751].
Carex vulpina. L. Stensgaard.

2434. **Septoria bromi** Sacc., Syll. III [562], All. VI [744].
Spermogoniis numerosis, minutis, sphaeroideis, laxe gregariis, maculis cinereis insidentibus, subsuperficialibus. Conidiis hyalinis, eguttulatis, filiformibus, 50 µ × 1,5 µ.
P. A. Karsten also records the same species on Phalaris canariensis from Finland (K. 90) and Allescher has found it on the same hostplant (All. VI [744]).
Bromus secalinus (hosp. nov.). J. Thorum ($^{12}/_{7}$ 02!). *Agrostis spica venti.* J. Fredrikshavn ($^{5}/_{7}$ 03!). *Poa annua* (hosp. nov.). S. Lyngby (M. L. M.).

2435. **Septoria tenella** Cooke & Sacc., Syll. III [562].
Conidiis bacillaribus, rectis 28—40 µ × 0,5—1 µ.
Festuca gigantea. F. Glorup, Tange Skov; L. Kyllingeskov.

2436. **Septoria moliniae** Sydow, Syll. XVI [971], All. VI [817].
Molinia coerulea. S. Tokkekøb Hegn.

2437. **Septoria oxyspora** Penz. & Sacc., Syll. III [565], All. VI [735] c. icon.
Anthoxantum odoratum (hosp. nov.). F. Holstenshus. *Hierochloa borealis* (hosp. nov.). F. Skaarup.

2438. **Septoria avenae** Frank, Syll. XI [547], All. VI [738], Septoriose hos Havre (R 04 b [405]), Havrens mørke Pletsyge (F. K. R. 06 [121] & 07 a [300]), Lit: R 99 d [42], M. L. M. 10 [312].
On living leaves of *Avena sativa*, common.

2439. **Septoria graminum** Desm., Syll. III [565], All. VI [789], Septoria-Pletsyge hos Hvede (F. K. R. 09 [740]), Lit: R 93 d [119], 02 a [575], Mangin 99 c. icon.
Conidiis filiformibus 35—60 µ × 1 µ.
Bromus ramosus. F. Vejstrup ($^{24}/_{12}$ 82). *Avena elatior.* J. Aalborg (H. P. Hansen); Falst. Stubbekøbing. *Avena sativa. Hordeum sativum,* common. *Triticum sativum* common (April—July R 99 d [41]), *Triticum junceum* × *repens.* S. Lindersvold; L. Bredefjord; Møen Rudsemark. *Lolium multiflorum.* L. Nakskov.

2440. **Septoria calamagrostidis** (Libert) Sacc., Syll. X [395], All. VI [746] see tab. VII figg. 85 & 86.

Calamagrostis arundinacea. J. Rindsholm (! 5/10 04! Exs. Kab. & Bub. no 619), Fusingø Vandmølle (19/7 04!).

2441. **Septoria epigejos** Thümen, Syll. III [563], All. VI [747] see tab. VII figg. 87 & 88.

Calamagrostis epigejos. Sept.—March. J. Mønsted (22/9 98! Exs. Kab. & Bub. no 467).

2442. **Septoria arenariae** Rostrup 99 a [275], Syll. XVI [974], All. VII [900].

Peritheciis hypophyllis, innatis, minutissimis; conidiis longissimis, tenuissimis, curvatis, 60—100 × 0,5—1 μ.

Calamagrostis arenaria. F. Nyborg; S. Tisvilde (June 98). *Hordeum arenarium.* F. Kerteminde; S. Tisvilde.

2443. **Septoria Vestergrenii** nom. nov., Syn: Sept. brachypodii Vgr. non Passerini, Sept. bromi Sacc. f. brachypodii All. VI [744].

Brachypodium silvaticum. J. Horsens (20/4 02!).

2444. **Septoria alopecuri** (Karsten) Sydow, All. VI [728].

Alopecurus agrestis. L. Nysted (22/7 98 abundantly see R 99 b).

2445. **Septoria culmifida** Lind 07 c [276], see tab. VII figg. 90 & 91.

Phleum pratense. J. Horsens (14/6 02!).

2446. **Septoria elymi** Rostrup 99 a [276], Syll. XVI [974], All. VII [893], Syn: Sept. ammophilae Sydow, Syll. XVI [974], All. VII [887], see tab. VII fig. 89.

Peritheciis sparsis, globoso-depressis; conidiis fasciculatis, cylindraceis 38—70 μ × 5—6 μ, 1—3-septatis, guttulatis.

Hordeum arenarium. J. Fredrikshavn!, Kaas!; S. Tisvilde (29/6 98).

2447. **Septoria tritici** Desm., Syll. III [561], All. VI [870], R 99 d [41].

Triticum sativum, common.

2448. **Septoria subradians** (Fries) Karsten 90 [25], Syn: Sphaeria subr. Fries S. M. II [525], Asteroma subr. Fries S. V. [425], Septoria brunneola Niessl., Syll. III [573], All. VI [763].

Sporidiis filiformibus 80—108 μ × 1—2 μ, hyalinis.

On dead leaves of *Convallaria majalis,* quite common in the fall.

2449. **Septoria salicicola** (Fries) Sacc., Syll. III [502], All. VI [849], R 02 a [576], Syn: Depazea sal. Fries S. M. II [350].

Conidiis curvatis 35—50 μ × 3 μ, 2-septatis.

Common on leaves of *Salix cinerea, caprea, repens* etc.

2450. **Septoria marmorata** Kabat & Bubak Exsicc. no 365.

Populus tremula. J. Aalbæk (29/7 06!).

2451. **Septoria populi** Desm., Syll. III [502], All. VI [834].

Populus tremula. B. Hammershus (Neger 06). *Populus pyramidalis*. J. Rosenholm!.

2452. **Septoria betulina** Passerini, Syll. III [506], All. VI [742], R 02 a [576].
On leaves of *Betula alba*. J. Borridsø (Obelitz). August.

2453. **Septoria quercina** Desm., Syll. III [504], All. VI [840].
On leaves of *Quercus robur*. J. Gaardbogaard, Gjesten.

2454. **Septoria epicarpii** Thümen, Syll. III [559], All. VI [799].
On living fruit of *Juglans regia*. F. Odense ([26]/7 87).

2455. **Septoria urticae** Desm., Syll. III [557], All. VI [873].
Urtica urens, common, July—October.

2456. **Septoria acetosae** Oudemans, Syll. XI [545], All. VI [848], R 02 a [576].
Rumex acetosa cult. F. Glorup. *Rumex acetosa*. F. Kirkeby, Skaarup; Møen!; B. Svaneke!.

2457. **Septoria brachyspora** Sacc., Syll. III [500], All. VI [782].
On leaves of *Ficus elastica* cultivated in houses (R 96 i).

2458. **Septoria humuli** West., Syll. III [557], All. VI [795], R 02 a [576].
On leaves of *Humulus lupulus*. F. Vejstrup Aaskov.

2459. **Septoria polygonorum** Desm., Syll. III [555], All. VI [833].
Conidiis filiformibus, curvulis, 45—50 μ × 1—1,5 μ.
Very common on leaves of *Polygonum tomentosum, persicaria, nodosum*.

2460. **Septoria cerastii** Rob. & Desm., Syll. III [518], All. VI [754].
Cerastium caespitosum. F. Vejstrup Aaskov. May.

2461. **Septoria stellariae** Rob. & Desm., Syll. III [518], All. VI [865].
Stellaria media, common, March—October.

2462. **Septoria scleranthi** Desm., Syll. III [518], All. VI [852].
On living and dead leaves and stems of *Scleranthus perennis*. J. Sæby. *Scleranthus annuus*. F. Ringe!.

2463. **Septoria dimera** Sacc., Syll. III [516], All. VI [856].
On fading leaves of *Silene nutans*. Møens Klint. August.

2464. **Septoria melandrii** Passerini, Syll. III [517], All. VI [810].
On living leaves of *Melandrium rubrum*. J. Krabbesholm!; S. Ordrup.

2465. **Septoria saponariae** (de C.) Savi, Syll. III [516], All. VI [850].
Saponaria officinalis. Fano (P. N.).

2466. **Septoria dianthi** Desm., Syll. III [516], All. VI [772].

Dianthus superbus. S. Flaskekroen. *Dianthus deltoides*. S. Dragsholm. *Dianthus armeria*. S. Klintebjerg.

2467. **Septoria paeoniae** West., Syll. III [526], All. VI [822], R 02 a [576].
Paeonia officinalis. J. Skive!, Viborg!; F. Mullerup (F. K. R.), Skaarup; S. Birkerød.

2468. **Septoria ficariae** Desm., Syll. III [522], All. VI [782].
Ranunculus ficaria. J. Horsens ([12]/6 02!); S. Bidstrup.

2469. **Septoria anemones** Desm., Syll. III [521], All. VI [730].
Anemone nemorosa. S. Danstrup Hegn.

2470. **Septoria hepaticae** Desm., Syll. III [522], All. VI [792], R 02 a [576].
Hepatica triloba. J. Skørping!, Skive!; F. Lundeborg; L. Stensgaard; B. Strandskoven (Exc. [16]/5 11).

2471. **Septoria mahoniae** Passerini, Syll. III [475], All. VI [812].
Mahonia aquifolium. J. Fredrikshavn (V. S.).

2472. **Septoria chelidonii** Desm., Syll. III [521], All. VI [756].
Chelidonium majus. Common, June to December.

2473. **Septoria lepidii** Desm., Syll. III [519], All. VI [803].
On living leaves of *Lepidium campestre*. S. Ørsløv (P. N.), April.

2474. **Septoria violae** West., Syll. III [518], All. VI [876].
Viola palustris. J. Brædstrup, Grindsted!, S. Gammelmose (R 06 cc). *Viola silvatica*. B. Kodal.

2475. **Septoria hyperici** Desm., Syll. III [515], All. VI [796], Syn: Ophiobolus hyperici (Rabenhorst) Sacc., Syll. II [343].
Hypericum perforatum. J. Bannerslund!; S. Ruderhegn!, Ringsted!. *Hypericum hirsutum*. J. Jensgaard Skov!. *Hypericum montanum*. Møens Klint!. *Hypericum pulchrum*. J. Odden Skov ([13]/7 01!), Viborg!.

2476. **Septoria tiliae** West., Syll. III [476], All. VI [868], R 02 a [576].
Tilia europaea. F. Glorup; S. Dyrehaven (A. B.).

2477. **Septoria heterochroa** Desm., Syll. III [538], All. VI [813].
Malva silvestris. J. Rubjerg!, Skive!. *Althaea officinalis*. F. Odense (Lotze).

2478. **Septoria crotonis** Bresadola, Syll. XI [545].
Croton sp. cult. S. Rosenborg Væksthus (Oct. 06).

2479. **Septoria Thümeniana** Passerini, Syn: Rhabdospora Thüm. Sacc., Syll. III [587], All. VI [901].
A true parasite, attacking the leaves, stems and twigs of *Euphorbia exigua*. S. Højrup (Gad).

2480. **Septoria mercurialis** West., Syll. III [557], All. VI [816].
On living leaves of *Mercurialis perennis*. J. Vejle; F. Glorup.

2481. **Septoria oxalidis** nov. spec. see tab. VII figg. 92—94.
Maculis solitariis, epiphyllis, cinereis, fusco-marginatis, rotundatis, 1 cm diam. Peritheciis paucis, epiphyllis, sphaeroideis; sporidiis curvatis, utrinque attenuatis, hyalinis, 18—25 μ × 1 μ.
In living leaves of *Oxalis acetosella*. J. Rindsholm ([11]/4 03! Exs. Vgr.), Horsens!; F. Svenborg ([2]/9 82).

2482. **Septoria incondita** Desm., Syll. III [479], All. VI [721].
On living leaves and fruit of *Acer pseudoplatanus*. F. Hvedholm. *Acer platanoides*. S. Rungsted (O. R.).

2483. **Septoria seminalis** Saccardo, Syll. III [478], All. VI [719].
On seedlings of *Acer campestre*. L. Stensgaard. *Acer pseudoplatanus*. S. Ermelunden.

2484. **Septoria cathartica** Passerini, Syll. III [482], All. VI [843].
On leaves of *Rhamnus cathartica*. F. Skaarup; S. Basnæs (P. N.).

2485. **Septoria sedi** West., Syll. III [527], All. VI [854].
Sedum purpureum. J. Horsens!; S. Karlebo Overdrev (Th. Leth).

2486. **Septoria posoniensis** Bäumler, Syll. X [367], All. VI [757].
Chrysosplenium alternifolium. S. Eskemose Skov (June 03 O. R.).

2487. **Septoria ribis** Desm., Syll. III [491], All. VI [845], Syn: Phleospora ribis West., Bull. Bruxel 1850, Septoria grossulariae (Lib.) West., Syll. III [491], All. VI [845], Ribsbuskenes Bladpletsyge (Lind & Ravn 10 [49] c. icon.), Lit: R 02 a [576] & 06 q. See tab. IV fig. 51.
Maculis albicantibus, parvulis, fuscomarginatis, subangulosis, sparsis. Peritheciis immersis, globosis, epiphyllis, sparsis, 2—10 maculae insidentibus, poro amplo pertusis. Sporulis filiformibus, curvulis, hyalinis, 45—60 μ × 1,5—2 μ, 3—4-septatis et minute guttulatis.
Very common, July—October on leaves of *Ribes grossularia, nigrum, rubrum, aureum*.

2488. **Septoria tormentillae** Rob. & Desm., Syll. III [511], All. VI [868].
Potentilla erecta. J. Aalbæk!, Viborg (! [23]/8 03) etc.

2489. **Septoria gei** Rob. & Desm., Syll. III [510], All. VI [788].
Geum urbanum. J. Skive ([2]/7 96!), Horsens!; Møen Stensgaard. *Geum rivale*. J. Bygholm!.

2490. **Septoria fragariae** Desm., Syll. III [511], All. VI [783].
On living leaves of *Fragaria vesca*. F. Glorup.

2491. **Septoria rosae** Desm., Syll. III [485], All. VI [846], R 02 a [576], Syn: Sept. rosarum West., R 84 i, Phleospora rosae v. Höhnel.
Rosa canina common. *Rosa gallica* in the gardens. *Rosa mollis.* J. Flade!, Tannishus!. *Rosa villosa.* J. Kaas!.

2492. **Septoria rubi** West., Syll. III [486], All. VI [847].
Very common on living and fadinge — specially on wintering — leaves of many different species of *Rubus.*

2493. **Septoria cerasina** Peck, Syll. III [489], All. VI [838], R 97 m [49].
Prunus padus (hosp. nov.). F. Glorup, Holmdrup.

2494. **Septoria piricola** Desm., Syll. III [487], All. VI [829], Syn: Sept. nigerrima Fuckel, Syll. III [487], All. VI [829], Lit: Klebahn 08 a, R 02 a [574], Lind & Ravn 10 [27] c. icon.
Very common on leaves of *Pirus communis.* J., F., S. etc.

2495. **Septoria aucupariae** Bresadola, Syll. XI [539], All. VI [861].
Sporidiis 40—45 μ × 4 μ, 2-sept.
Sorbus aucuparia. S. Fredriksværk. June.

2496. **Septoria crataegi** Kickx, Syll. III [486], All. VI [767], R 02 a [576].
Crataegus monogyna. S. Sorgenfri ($^{22}/_{8}$ 92). *Crataegus oxyacantha.* J. Stendrupstrand.

2497. **Septoria astragali** Desm., Syll. III [508], All. VI [737].
On living leaves of *Astragalus glycyphyllus,* common, July—Sept.

2498. **Septoria silvestris** Passerini, Syll. III [510], All. VI [802].
Vicia sepium. J. Krabbesholm Skov ($^{11}/_{3}$ 06!).

2499. **Septoria viciae** West., Syll. III [509], Syll. VI [875].
May—August. *Vicia lathyroides.* J. Horsens!; F. Skaarupør. *Vicia tetrasperma.* Falst. Østerskov.

2500. **Septoria leguminum** Desm., Syll. III [559], All. VI [830].
On diseased pods of *Phaceolus nanus.* Falst. Stubbekøbing (Aug. 80 Exs. Thüm. Myc. no 2096).

2501. **Septoria pisi** West., Syll. III [509], All. VI [830].
Pisum arvense. J. Askov ($^{25}/_{7}$ 00 F. K. R.).

2502. **Septoria medicaginis** Rob. & Desm., Syll. III [508], All. VI [813].
On dying leaves of *Medicago sativa.* S. Lyngby ($^{3}/_{9}$ 97 K. H.).

2503. **Septoria stipularis** Passerini, Syll. III [510], Syn: Rhabdospora stip. All. VI [911].
A true parasite, attacking living leaves and stems and killing them. Peritheciis lenticularibus vel oblongis, c. 300 μ diam., poro 35 μ diam.,

pertusis. Sporidiis cylindraceis, vel claviformibus, rectis, obtusis 36—44 μ × 1,5—3 μ,4—8-septatis, hyalinis.
Lotus corniculatus (hosp. nov.), J. Bangsbo ($^{26}/_{7}$ 02!).

2504. **Septoria plantaginea** Passerini, Syll. III [554], All. VI [831].
Conidiis oblongo-clavatis, 75—100 μ × 5 μ, 5-septatis.
Plantago lanceolata. J. Viborg ($^{1}/_{7}$ 04!).

2505. **Septoria plantaginis** (Cda.) Sacc., Syll. III [554], All. VI [831].
Conidiis bacillaribus vel ellipticis, rectis, 18 μ longit.
Plantago major. J. Laurbjerg ($^{2}/_{9}$ 99!).

2506. **Septoria verbenae** Rob. & Desm., Syll. III [537], All. VI [873].
Verbena officinalis. L. Stokkemarke.

2507. **Septoria stachydis** Rob. & Desm., Syll. III [539], All. VI [865].
Stachys silvaticus. J. Bangsbo Skov!, Krabbesholm Skov ($^{9}/_{11}$ 02!).

2508. **Septoria cotylea** Harr. & Pat. 05 [85], Syll. XVIII [385].
In seed-plants of *Galeopsis tetrahit*. F. Skaarup (abundantly $^{21}/_{4}$ 1874).

2509. **Septoria galeopsidis** West., Syll. III [539], All. VI [785].
Galeopsis tetrahit. Common, noticed from J., F., S., Falst. etc.

2510. **Septoria Diedickei** Sacc., Syll. XVIII [385], Syn: Sept. galeobdoli Died., Hedwigia 1903.
On living, especially on wintered leaves of *Lamium galeobdolon*. J. Bygholm!; F. Brændeskov ($^{16}/_{5}$ 83); S. Borød (F. & W.); B. Almindingen (Exc. $^{16}/_{5}$ 11).

2511. **Septoria lamii** Passerini, Syll. III [538], All. VI [800].
Lamium album, common. *Lamium amplexicaule* (hosp. nov.). S. Lyngby (M. L. M.).

2512. **Septoria scopariae** West., Syll. III [558], All. VI [861].
On pods of *Sarothamnus scoparius*. F. Glorup Dyrehave. August.

2513. **Septoria laburni** Passerini, Syll. III [485], All. VI [770], R 02 a [576].
On fading leaves of *Cytisus laburnum*. S. København. October.

2514. **Septoria Brissaceana** Sacc. & Let., Syll. III [512], All. VI [811], Syn: Sept. lythrina Peck, Syll. III [512].
Lythrum salicaria. J. Horsens!; F. Skaarup ($^{30}/_{7}$ 83); S. Tystofte; L. Stensgaard; B. Rømersdal.

2515. **Septoria epilobii** West., Syll. III [513], All. VI [776].
On living leaves of *Epilobium hirsutum*. J. Horsens ($^{8}/_{8}$ 01!).

2516. **Septoria oenotherae** West., Syll. III [513], All. VI [819].
Oenothera biennis. F. Brenderup!; S. Fredriksværk.

2517. **Septoria cornicola** Desm., Syll. III [492], All. VI [766].
Cornus sanguinea. J. Greisdalen; F. Kerteminde; S. Arresø; L. Stensgaard; Møen Lilleklint. *Cornus suecica.* J. Sæby ([11]/8 96).

2518. **Septoria hederae** Desm., Syll. III [490], All. VI [790].
On living leaves of *Hedera helix.* J. Fiskbæk, Nebsager!.

2519. **Septoria eryngii** Westendorp, Syll. X [367], All. VI [778].
Eryngium maritimum. S. Hundested. July.

2520. **Septoria hydrocotyles** Desm., Syll. III [531], All. VI [795].
Hydrocotyle vulgaris, quite common, recorded from J., F., S., Falst., B.

2521. **Septoria podagrariae** Lasch, Syll. III [529], All. VI [714], Syn: Phyllachora pod. (Roth) Karsten, Syll. II [615], Wt. II [901].
On living and fading leaves of *Aegopodium podagraria,* common, May—Sept.

2522. **Septoria apii** Chester 1891, Syn: Sept. apii R 93 j, Sept. petroselini Desm. var apii Bres. & Cav., Syll. XIV [972], All. VI [825], Phlyctaena Magnusiana Bres., Syll. XI [551], All. VI [938], Selleriernes Septoria (Lind & Ravn 10 [77], Lind 11 a), Lit: Klebahn 10 & 11, Rogers 11.
On living leaves and fruit of *Apium graveolens,* common.

2523. **Septoria petroselini** Desm., Syll. III [530], All. VI [824], R 02 a [576].
Petroselinum sativum, common. *Conium maculatum.* J. Fladstrand!.

2524. **Septoria sii** Rob. & Desm., Syll. III [529], All. VI [857].
Sium angustifolium & latifolium, quite common.

2525. **Septoria oreoselini** (Lasch) Sacc., Syll. III [528], All. VI [824].
Peucedanum oreoselinum. B. Almegaard ([15]/9 88 see R 89 i [229]).

2526. **Septoria stemmatea** (Fries) Berk., Syll. III [493].
On living leaves of *Vaccinium vitis idaea.* S. Hornbæk Plantage.

2527. **Septoria lysimachiae** West., Syll. III [533], All VI [811].
Lysimachia thyrsiflora. J. Lyng Sø. *Lysimachia vulgaris.* F. Skaarup.

2528. **Septoria trientalis** (Lasch) Sacc., Syll. X [361], All. VI [868].
Trientalis europaea. J. Skørping!, Viborg (! [21]/8 03).

2529. **Septoria primulicola** Rostrup 05 b [312].
Maculis numerosis, epiphyllis, cinereis, fusco-marginatis, rotundatis, 2—3 mm latis; peritheciis tectis, sphaeroideis, 200 μ diam.; conidiis cylindraceis, rectis, 12—15 μ × 3—4 μ, 1-septatis, hyalinis, perspicue 4-guttulatis.
On living leaves of *Primula acaulis.* J. Letbæk.

2530. **Septoria convolvuli** Desm., Syll. III [536], All. VI [764].
Convolvulus arvensis & sepium, common June—Sept.

2531. **Septoria dulcamarae** Desm., Syll. III [535], All. VI [858].
Sporidiis filiformibus, 40—50 μ × 1,5 μ, 3-sept.
In living leaves of *Solanum dulcamara*. J. Viborg!, Horsens!; F. Aabymark; Falst. Stubbekøbing.

2532. **Septoria lycopersici** Spegazzini, Syll. III [535], All. VI [858], Güssow 08.
Conidiis filiformibus, hyalinis, 40—107 μ × 2—3,5 μ, 3—10-septatis. Its attack is very noxious for the cultivated tomato'es.
On the leaves and stems of *Solanum lycopersicum*. J. Sindal; S. Husum; Am. Taarnby. August—Sept.

2533. **Septoria phlogis** Sacc. & Speg., Syll. III [523], All. VI [826].
Phlox sp. cult. J. Skive (June 02!), Viborg!.

2534. **Septoria mimuli** Winter, Syll. X [378], All. VI [817].
On living leaves of *Mimulus luteus*. J. Viborg ($^{2}/_{9}$ 99!).

2535. **Septoria veronicae** Desm., Syll. III [534], All. VI [874].
Veronica hederifolia. F. Klingstrup, May.

2536. **Septoria lavandulae** Desm., Syll. III [537], All. VI [802].
On living leaves of *Lavandula vera*. J. Viborg ($^{29}/_{8}$ 05!).

2537. **Septoria menthae** (Thümen) Ouds., Syll. III [538], All. VI [815].
Peritheciis epiphyllis, conidiis 35—48 μ × 1 μ, 3-septatis.
Mentha arvensis. J. Viborg ($^{21}/_{8}$ 03!).

3538. **Septoria lycopi** Passerini, Syll. III [540], All. VI [811].
Lycopus europaeus. J. Viborg ($^{4}/_{8}$ 03!), Vejle.

2539. **Septoria orni** Passerini, Syll. III [495], All. VI [784].
On living leaves of *Fraxinus excelsior*. F. Tange Aa. July.

2540. **Septoria limnanthemi** Thümen, Syll. III [541], All. VI [806].
Limnanthemum nymphaeoïdes. S. Botanisk Have. August.

2541. **Septoria menyanthis** Desmazières, Syll. III [532], All. VI [816].
Menyanthes trifoliata. Common, recorded from J., F., S. (R 06 cc), L., Falst.

2542. **Septoria oleandrina** Saccardo, Syll. III [497], All. VI [819].
On withering leaves of *Nerium oleander*. L. Nakskov ($^{26}/_{5}$ 05 Wibolt see R 05 q).

2543. **Septoria vincetoxici** (Schub.) Auerswald, Syll. III [542], All. VI [769].

June—Sept. *Cynanchum vincetoxicum*. S. Rørvig, Klintebjerg, Boserup (O. R.); B. Hammershus ($^{31}/_{5}$ 84), Dynddalen (Neger 06).

2544. **Septoria asclepiadea** Sacc., Syll. III [542], All. VI [769].
Upon the fruit of *Cynanchum vincetoxicum*. B. Hammershus.

2545. **Septoria asperulae** Bäumler, Syll. X [373], All. VI [736].
On wintered leaves of *Asperula odorata*. J. Egebjerg near Horsens ($^{19}/_{4}$ 02!).

2546. **Septoria linnaeae** (Ehrenberg) Bres. & Har. 1891, Syll. X [358], All. VI [806], R 99 a [268], see tab. VII figg. 81 & 82.
Maculis amphigenis, circularibus, 1—2 mm latis, albis, rubrocinctis; peritheciis 1—10, epiphyllis, nigris, minutissimis; conidiis filiformibus, tenuissimis, continuis vel multiseptatis, 50—76 μ × 1 μ.
Linnaea borealis. S. Tisvilde Hegn (June—July 98 W. Christensen).

2547. **Septoria viburni** Westendorp, Syll. III [493], All. VI [874].
Viburnum opulus. F. Glorup, Skaarup; L. Sørup. July—August.

2548. **Septoria valerianae** Saccardo & Fautrey, Syll. XVI [963], All. VII [903].
Valeriana major. S. Haveselskabets Have. November.

2549. **Septoria scabiosicola** Desm., Syll. III [553], All. VI [851], Syn: Ascochyta scabiosae Rabenhorst, Syll. III [400], All. VI [672],
Very common on leaves of *Succisa praemorsa* and *Knautia arvensis*.

2550. **Septoria lapparum** Saccardo, Syll. III [551], All. VI [801].
Lappa sp. Flaskekroen (May 89 O. R.).

2551. **Septoria Fuckelii** Saccardo, Syll. III [545], All. VI [871] c. icon.
On living leaves of *Tussilago farfarus*. J. Hadsund: S. Tisvilde ($^{29}/_{6}$ 94 O. R.).

2552. **Septoria pyrethri** Bresadola, Syll. XIV [973], All. VI [839].
Chrysanthemum parthenium. S. Lyngby (K. H.). September.

2553. **Septoria chrysanthemella** Sacc., Syll. XI [542], All. VI [804], Syn. Sept. chrysanthemi Rostrup 97 m [46], Sept. Rostrupii Sacc. & Sydow, Syll. XIV [973], All. VI [757], Sept. chrysanthemi Cavara, Sept. chrysanthemi-indici Kab. & Bub., Sept. varians Joffrin (see Magnus 07), Chrysanthemumbladenes Septoria (Lind 08 d c. icon.).
On living leaves of *Chrysanthemum indicum*, common June—November.

2554. **Septoria senecionis** Westendorp, Syll. III [549], All. VI [854].
On living leaves of *Senecio aquaticus*. F. Glorup. August.

2555. **Septoria senecionis-silvatici** Sydow, Syll. XVI [964], All. VI [854].
Senecio silvaticus. J. Skovsgaard near Viborg ($^{27}/_{7}$ 03!).

2556. **Septoria virgaureae** Desmazières, Syll. III [546], All. VI [859].
Solidago virgaurea. J. Hjørring!; S. Glænø ([17]/7 76 P. N.).

2557. **Septoria bidentis** Sacc., Syll. III [547], All. VI [742].
Bidens tripartitus. J. Vejle; L. Stensgaard; Mariboe Sø. July—August.

2558. **Septoria arnoseridis** nom. nov., Syn: Rhabdospora arn. Lind 05. See tab. VII figg. 83 & 84.
Maculis orbiculatis, amphigenis, majorem folii partem denique occupantibus, indeterminatis. Peritheciis numerosis, sparsis, minutis, 90—100 μ diam., hemisphaericis, superficialibus, papillatis, poro pertusis. Sporulis filiformibus, continuis, rectis, hyalinis 33—34 μ × 1 μ.
On living and fading leaves and stems of *Arnoseris minima.* J. Viborg ([9]/7 94!), Langaa, Horsens!

2559. **Septoria lactucae** Passerini, Syll. III [551], All. VI [800].
On living leaves of *Lactuca sativa.* F. Skaarup. July.

Rhabdospora.

2560. **Rhabdospora equiseti** (Desm.) All. VI [901], Syn: Septoria eq. Desm., Syll. III [576].
Equisetum fluviatile. F. Brudager (Sept. 82. Thüm. Myc. no 2296), Klingstrup, Skaarup; Lang. Tranekær.

2561. **Rhabdospora pithyophila** Sacc., Syll. III [585], All. VI [885].
Picea alba. J. Randbøldal (Krohn), Aalykke (N. Fritz). *Picea excelsa.* J. Baggesvogn Skov!, S. Taarnholm (Fritz), Dæmpegaard (C. Hansen).

2562. **Rhabdospora junci** (Desm.) All. VI [910], Syn: Septoria junci Desm., Syll. III [569].
On dead stems of *Juncus effusus.* S. Bøllemose. *Juncus compressus.* Fæno.

2563. **Rhabdospora scirpi** (Sacc.) All. VI [922], Syn: Septoria scirpi, Sacc., Syll. III [567].
Scirpus lacustris. S. Sjælsø (O. R.), Utterslev Mose (May 03 O. R.).

2564. **Rhabdospora arundinis** (Mont.) All. VI [916], Syn: Septoria arund. Sacc., Syll. III [564].
Arundo phragmites. S. Sjælsø (June 03 O. R.).

2565. **Rhabdospora salicelli** (B. & Br.) Sacc., Syll. III [585], All. VI [920] c. icon., Syn: Septoria sal. Berk. & Br.
On twigs of *Salix repens.* S. Gammelmose (see R 06 cc [357]).

2566. **Rhabdospora princeps** (B. & Br.) Sacc., Syll. III [584].
On twigs of *Fagus silvatica.* S. Jægersborg.

2567. **Rhabdospora magna** Sacc., Syll. XVI [979], All. VII [907].

Sporulis cylindraceis, curvulis, utrinque rotundatis, hyalinis, 23—28 μ × 3—3,5 μ, 3-septatis.
On dead twigs of *Salix caprea*. S. Lyngby Mose ($^{25}/_{5}$ 07!).

2568. **Rhabdospora populorum** Schulzer & Sacc., Syll. III [584], All. VI [917].
Populus tremula. J. Viborg.

2569. **Rhabdospora juglandis** (Schweinitz) Saccardo, Syll. III [584].
Juglans regia. S. Landbohøjskolens Have. Dec.

2570. **Rhabdospora pleosporoides** Sacc., Syll. III [588], All. VI [888].
On dead stems of *Rumex sp.* J. Karup!. *Rumex acetosa*. S. Flaskekroen (May 03 O. R.). *Centaurea scabiosa*. S. Dronninggaard (June 91 O. R.).

2571. **Rhabdospora dolosa** Sydow, Syll. XVI [976], All. VII [907].
Pulsatilla pratensis. S. Jægerspris ($^{11}/_{6}$ 89), Tissø.

2572. **Rhabdospora leptospora** (Massee) Sacc., Syll. X [396], All. VI [891].
Clematis. J. Skive ($^{11}/_{5}$ 01!).

2573. **Rhabdospora ramealis** (Rob. & Desm.) Sacc., Syll. III [580], All. VI [919].
Rubus. J. Viborg (Gad); S. Lyngby Mose!.

2574. **Rhabdospora inaequalis** Sacc., Syll. III [580], All. VI [925] c. icon.
Sorbus aucuparia. F. Skaarup; S. Geelskov.

2575. **Rhabdospora nebulosa** (Desm.) Sacc., Syll. III [589], All. VI [889], Lit: Klebahn 10.
Conium maculatum. S. Billesborg Strand ($^{7}/_{10}$ 94 see R 95 k).

2576. **Rhabdospora longior** Karsten, All. VI [895], Syn: Rhab. pleosporoides Sacc. subsp. longior Karsten, Syll. X [391].
Anthriscus silvester. J. Skovsgaard near Viborg ($^{21}/_{7}$ 03!).

2577. **Rhabdospora caulogena** Sacc., Syll. III [590], All. VI [889].
On dead stems of *Anthriscus silvester*. S. Lyngby ($^{3}/_{3}$ 11!).

2578. **Rhabdospora Brunaudiana** Sacc., Syll. III [590], All. VI [904].
Anthriscus silvester. S. Husum ($^{2}/_{4}$ 88 O. R.).

2579. **Rhabdospora breviuscula** (Berk. & Cooke) Sacc., Syll. III [580].
Robinia pseudacacia. S. København (Holm).

2580. **Rhabdospora antirrhini** Sacc., Syn: Rhab. nigrella Sacc. var antirrhini Sacc., Syll. III [588], All. VI [889].
Antirrhinum orontium. S. Lyngby ($^{14}/_{3}$ 93 K. H.).

2581. **Rhabdospora continua** (Berk. & Cooke) Sacc., Syll. III [593].
Plantago major. B. Almindingen ([11]/9 98, new for Europe see R 99 a [267] & 06 dd [379]).

2582. **Rhabdospora fraxini** Passerini, Syll. X [389], All. VI [905].
On twigs of *Fraxinus excelsior.* S. Gjorslev (Anthon).

2583. **Rhabdospora cynanchica** Sacc., Syll. III [591], All. VI [899].
On dead stems of *Cynanchum vincetoxicum.* S. Rørvig ([17]/7 92).

2584. **Rhabdospora lonicerae** (Cooke & Ell.) Sacc., Syll. III [582], All. VI [911].
Lonicera xylosteum. S. Dyrehaven (April 91 O. R.).

2585. **Rhabdospora tomispora** Berlese & Bresadola, Syll. X [395], All. VI [890].
Differs from all other species of Rhabdospora through its articulated sporidiis, see tab. VIII.
On dead stems of *Artemisia vulgaris.* J. Skive ([11]/5 01!).

2586. **Rhabdospora solidaginis** Cooke & Ellis, Syll. III [591], All. VI [925].
Solidago virgaurea. J. Bangsbo ([27]/7 06!).

2587. **Rhabdospora intybi** (Passerini) All. VI [897], Syn: Septoria int. Pass. Syll. III [551].
Cichorium intubus. J. Horsens ([24]/9 01!).

2588. **Rhabdospora hypochaeridis** All. VI [909], Syll. XIV [984].
On dead stems of *Hypochaeris radicata.* J. Sæbygaard.

Collonema.

2589. **Collonema schizothyrioides** (Preuss) Grove, All. VI [931], Syn: Aposphaeria schiz. Sacc., Syll. III [177], All. VI [384].
It is — according to Schroeter 08 [146] — the conidial fructification of Godronia ericae.
On dead twigs of *Calluna vulgaris.* J. Dollerup (Octob. 07 E. W.).

Phleospora.

Phleospora ulmi corresponds to Mycosphaerella ulmi (see Klebahn 05), and many other form-species of Phleospora are surely corresponding to species of Mycosphaerella, especially is a series of forms of Phleospora on leaves of deciduous trees corresponding to Mycosphaerella maculiformis (viz. Phleosp. aesculi, quercicola, aceris, castanicola).

Phleospora oxyacanthae corresponds to Mycosphaerella oxyacanthae (see Jaap. exsicc. no 188). Concerning the systematical place of Phleospora see also v. Höhnel 02 [995].

2590. **Phleospora castanicola** (Desm.) D. Sacc., Syn: Septoria castanicola Desm., Syll. III [504], All. VI [752], R 02 a [576].
On leaves of *Castanea vesca*. September. J. Skive!.

2591. **Phleospora maculiformis** nom. nov., Syn: Sept. quercicola Sacc., Syll. III [505], All. VI [840], not Phleospora quercicola Sacc., Syll. XVIII [490].
On leaves of *Quercus robur*, common in the fall.

2592. **Phleospora ulmi** (Fries) Wallr., Syll. III [578], Syn: Phleosp. ulmicola (Biv.) All. VI [936], R 02 a [596], Kleb. 05, Septoria ulmi Fries El. II [118], Phyllachora ulmi (Sow.) Fuckel, R 80 a [142].
On living leaves of *Ulmus effusa, montana, pyramidalis*, very common in the fall.

2593. **Phleospora maculans** (Bereng.) All. VI [935], Syn: Phleosp. mori (Lév.) Sacc., Syll. III [577], R 02 a [596].
On living leaves of *Morus nigra*, July—Octob. J. Gylding (Jeppesen); F. Hofmansgave (Hofman-Bang), Skaarup ([23]/8 64); S. København; Falst. Moseby (H. Mørk); B. Allinge!, Svaneke!, Neksø!.

2594. **Phleospora aceris** (Lib.) Sacc., Syll. III [577], All. VI [933], R 02 a [596].
On leaves of *Acer pseudoplatanus*, very common.

2595. **Phleospora pseudoplatani** (Rob. & Desm.)!, Syn: Septoria pseud. Rob. & Desm., Syll. III [478], All. VI [719], R 02 a [576].
On living leaves and fruit of *Acer platanoides*, common, June—Octob.

2596. **Phleospora aesculi** (Lib.)!, Syn: Septoria aesc. (Lib.) West., Syll. III [479], All. VI [725].
On living leaves of *Aesculus hippocastanum*. J. Dvergetved (V. S.).

2597. **Phleospora oxyacanthae** (Fries) Wallr., Syll. III [578], All. VI [935], Syn: Septoria ox. Fries El. II [119], Lit: R 95 e & 02 a [597].
On leaves of *Crataegus monogyna* & *oxyacantha*, common, July—Octob.

2598. **Phleospora fulvescens** (Sacc.) v. Höhnel in Jaap's Exsicc. no 239, Syn: Septoria fulv. Sacc., Syll. III [510], All. VI [802].
On living leaves of *Lathyrus maritimus*. J. Tversted (! Exs. Kabat & Bubak no 622), Tannishus, Svinkløv, Fanø (E. W. 94 [62]); S. Tisvilde; Falst. Bøtø; B. Blykobbe, Rønne!. *Lathyrus silvester*. F. Skaarupør; S. Tisvilde; Møens Klint.

2599. **Phleospora robiniae** (Libert) v. Höhnel 05, Syn: Fusarium Vogelii P. Henn., Septoria curvata (Rbh. & Braun) Sacc., Syll. III [484], All. VI [846], Septoria robiniae Desm., Syll. III [484], All. VI [845], R 02 a [576].
On leaves of *Robinia pseudacacia*. S. Charlottenlund ($^5/_9$ 92); L. Stensgaard.

2600. **Phleospora Bresadolae** All. VI [934], Syll. XI [550].
On living leaves of *Asperula odorata*. S. Slangerup ($^6/_{10}$ 07 !).

Phlyctaena.

2601. **Phlyctaena pseudophoma** Sacc., Syll. III [595], All. VI [939].
On young plants of *Quercus robur*. S. Petersgaard (Thymann).

Eriospora.

2602. **Eriospora leucostoma** Berk. & Br., Syll. III [600], All. VI [947] c. icon.
Juncus Gerardi. J. Horsens (! $^{19}/_4$ 07 see Lind 07 c [277]).

Dilophospora.

2603. **Dilophospora graminis** Desm., Syll. III [600], All. III [948] c. icon.
It is supposed to be the conidial form of Dilophia graminis.
Agrostis alba, Holcus mollis & lanatus, common.

Cytosporina.

The forms of Cytosporina correspond to species of Valsa, see pag. 237.

2604. **Cytosporina abietis** Ouds., Syll. XVI [983], All. VII [911].
On cones of *Picea canadensis*. S. Hejreskov ($^{28}/_8$ 05).

2605. **Cytosporina aspera** (Wallr.) Sacc., Syll. III [602], All. VI [953].
Fagus silvatica. Common. July—October.

2606. **Cytosporina ludibunda** Sacc., Syll. III [601], All. VI [955].
Robinia pseudacacia. S. Forsthaven. Sept.

2607. **Cytosporina millepunctata** Sacc., Syll. III [602], All. VI [953], R 83 d [289].
Fraxinus excelsior, common, associated with Valsa eunomia.

Micropera.

The formspecies of Micropera (and Micula) correspond to species of Cenangieae, viz:

Micropera abietis to Dermatella eucrita (sec. Rostrup).

Micropera pinastri to Tympanis pinastri (Tul. Carp. III [151]).
— drupacearum Lév. to Dermatea cerasi.
— sorbi - — ariae.
— Mougeotti - — micula.

Rostrup classifies Micropera under the Excipulaceae (R 95 a [209]).

2608. **Micropera abietis** R 95 a [209], Syll. XI [551], Fron 08 c. icon.
Perithecia hysteriformia, fusca, dense gregaria; sporae fusoideae, semicirculari-arcuatae, pluriguttulatae, continuae vel rarissime 1-septatae, 30—40 μ × 4—5 μ, hyalinae (R). Perithecia pustuliformia, erumpentia, fusca, dense gregaria; sporulae fusoideae, semicirculari, arcuatae, pluriguttulatae, 2—3-septatis, 60—70 μ × 4—5 μ, hyalinae (Fron).
On dying *Abies alba*. S. Grevinge Skov Afd. 36 e ($^{18}/_{10}$ 93).

2609. **Micropera pinastri** (Fries) Sacc., Syll. III [606], All. VI [960].
Conidiis clavatis, curvulis, stratu gelatinoso obvolutis, 50—90 μ × 3—5 μ.
Abies alba. S. Dyrehaven (March 90 Løvendal). *Pinus strobus*. S. Geelskov.

2610. **Micropera alni** (Sacc. & Briand)!, Syn: Micula alni Sacc., Syll. III [604], All. VI [957].
On twigs of *Alnus glutinosa*. J. Rindsholm; S. Sorgenfri!.

2611. **Micropera drupacearum** Lév., Syll. III [605], All. VI [961].
Prunus avium. S. Fredriksborg (! Exs. Kab. & Bub.); B. Almindingen.

2612. **Micropera padina** (Fries) Sacc., Syll. III [605], All. VI [961], Syn: Sphaeria padina Fries El. II index.
Prunus padus. F. Klingstrup ($^{10}/_{4}$ 82).

Nectroidaceae.

Zythia.

2613. **Zythia resinae** (Fries) Karsten, Syll. X [404], All. VII [300], Syn: Sphaeria resinae Fries S. M. II [453], Tubercularia resinae Thümen, Syll. IV [649], Lit: Brick 11.
Is the conidial form of Tromera resinae Körber (see Jaap 08 [32]).
On cones of *Pinus silvestris*. F. Svenborg ($^{24}/_{2}$ 11!).

2614. **Zythia elegans** Fries S. V. [408], Syll. III [615], All. VII [301].
On stems of *Potentilla argentea*. S. Korsør (F. K. R.).

Leptostromaceae—Hyalosporae.

Leptothyrium.

Klebahn has demonstrated by cultural experiments, that Leptothyrium alneum is the conidial fructification of Gnomoniella tubiformis (see Klebahn 08 b).

2615. **Leptothyrium litigiosum** (Desm.) Sacc., Syll. III [636], All. VII [339].

Pteridium aquilinum. J. Hald Egeskov ($^{24}/_{5}$ 04!).

2616. **Leptothyrium pini** (Fries) Sacc., Syll. III [627], All. VII [329], Syn: Sacidium pini Fries S. V. [420], R 83 d [280], 02 a [578].

Abies alba. F. Hofmansgave (Hofman-Bang). *Abies Nordmanniana*. J. Holsted (Fritz). *Picea alba*. J. Gøddinggaard Plantage; F. Broholm: S. Uglerup Skov; Falst. Kohave (C. H. O.). *Picea excelsa*. J. Feldborg (Gad); S. Krusesminde (Fritz), Køge Aas. *Picea morinda*. S. Skovvænget (Wichfeld). *Pinus montana*. F. Hofmansgave (Hofman-Bang).

2617. **Leptothyrium radiatum** F. & W. 07 [355] c. icon.

On dead straw of *Juncus squarrosus*. J. Borris.

2618. **Leptothyrium crastophilum** B. R. S., Syll. X [416], All. VII [327].

On straw. S. Eskemosegaard Skov (June 03 O. R.).

2619. **Leptothyrium populi** Fuckel, Syll. III [627], All. VII [338] c. fig.

On leaves of *Populus alba*. S. Landbohøjskolens Have. Nov.

2620. **Leptothyrium alneum** (Fries) Sacc., Syll. III [627], All. VII [325], R 02 a [479], Syn: Dothidea alnea Fries S. M. II [564], Ællens Vorteplet (H. 37 [873]), Lit: Klebahn 08 b, Tassi 04 [16].

Common on living leaves of *Alnus glutinosa*, Aug.—Sept.

2621. **Leptothyrium quercinum** (Lasch) Sacc., Syll. III [628], All. VII [340].

On dead leaves of *Quercus robur*. J. Hald Egeskov ($^{31}/_{3}$ 03!).

2622. **Leptothyrium medium** Cooke, Syll. X [412], All. VII [339].

On dead leaves of *Quercus robur*. J. Rimmen!, Hald Egeskov ($^{17}/_{2}$ 03!), Tapdrup. *Quercus sessiliflora*. J. Silkeborg!.

2623. **Leptothyrium juglandis** Libert, All. VII [602], Syn: Lept. castaneae (Spr.) Sacc. var nucifoliae Massal., Syll. XI [554], All. VII [328].

Juglans regia. J. Knivholt ($^{23}/_{10}$ 07 V. S.).

2624. **Leptothyrium acerinum** (Kze.) Corda, Syll. III [630], All. VII [322] c. icon.

On fallen leaves of *Acer platanoides*. S. Fredriksborg ($^{28}/_{3}$ 02!).

2625. **Leptothyrium vulgare** (Fries) Sacc., Syll. III [633], All. VII [324].
Ribes grossularia. F. Odense. *Cornus suecica.* J. St. Vildmose, Mosskov. *Pirola chlorantha* (hosp. nov.). S. Tisvilde. *Campanula trachelium.* J. Bangsbo Skov!. *Cirsium arvense* (hosp. nov.). F. Vejstrup Aaskov, Klingstrup. *Solidago virgaurea.* J. Viborg!.

2626. **Leptothyrium pomi** (Fries) Sacc., Syll. III [632], All. VII [337], Syn: Labrella pomi Fries.
Not uncommon on apples. Nov.—Dec.

2627. **Leptothyrium chimophilae** spec. nov.
Peritheciis in acervulos coacervatis vel sparsis, superficialibus, scutato-planis, 160 μ diam., atro-nitidis, astomis, contextu minuto parenchymatico, vix radiato; conidiis cylindraceis, rectiusculis, hyalinis, granulosis, 15—20 μ × 2—3 μ, basidiis paralelle stipatis, brevissimis.
On leaves of *Chimophila umbellata.* S. Tisvilde ([25]/[10] 78).

2628. **Leptothyrium periclymeni** (Desm.) Sacc., Syll. III [626], All. VII [335] c. icon., R 02 a [562].
Lonicera xylosteum. S. Slangerup!, Køge Aas, Slagelse Skov (R 99 a [271]. "Marsonia lonicerae Harkn."); Møens Klinteskov (R 95 a [210]).

Piggotia.

2629. **Piggotia astroidea** Berk. & Br., Syll. III [637], All. VII [345] c. icon.
Is the conidial fructification of Dothidella ulmi (see Wt. II [904]).
On living leaves of *Ulmus campestris.* L. Knuthenborg (R 92 g [77]).

Leptostroma.

The form-species of Leptostroma are often lower fructifications of the species of Hypodermataceae see pag. 144.

2630. **Leptostroma filicinum** Fries S. M. II [599], Syll. III [645], All. VII [358].
Osmunda regalis. L. Fuglsang Skov (see R 99 b). *Pteridium aquilinum.* S. St. Hareskov (O. R.), Lyngby Mose (April 89 O. R.).

2631. **Leptostroma juncacearum** Saccardo, Syll. III [644], All.VII [350].
Juncus effusus. S. Gammelmose (see R 06 cc).

2632. **Leptostroma Henningsii** All. VII [349], Syll. XI [556].
Eriophorum angustifolium. J. Utoft Plantage. July.

2633. **Leptostroma scirpinum** Fries S. M. II [598], Syll. III [644].
Scirpus lacustris. J. Silkeborg Langsø; S. Sjælsø, Hulsø ([5]/[9] 86 O. R.), Tjustrup Sø; L. Vesterborg Sø.

2634. **Leptostroma caricinum** Fries S. M. II [598], Syll. III [645], All. VII [359].

Carex arenaria. F. Hals. *Carex pseudocyperus.* F. Broholm; S. Gammelmose (R 06 cc).

2635. **Leptostroma phragmitis** Fries, Syll. III [643], All. VII [352].

Arundo phragmites. F. Lundeborg; S. Dronninggaard.

2636. **Leptostroma polygonatum** Lasch, Syll. III [644], All. VII [359].

Majanthemum bifolium. J. Rindsholm (Gad); S. Geelskov. Dec.

2637. **Leptostroma scriptum** Fries S. M. II [598], Syll. III [640], All. VII [357].

Acer negundo. S. Helene Kilde. July.

2638. **Leptostroma herbarum** (Fries) Link, Syll. III [645], All. VII [348], Syn: Sclerotium herb. Fries S. M. II [599].

Ribes grossularia. J. Aarhus!. *Saponaria officinalis.* F. Holmdrup. *Valeriana officinalis.* F. Klingstrup. *Trientalis europaea.* J. Rindsholm (Gad).

2639. **Leptostroma spiraeinum** (Sacc. & Briand) Vgr., Syn: Placosphaeria clypeata Briand & Har., Syll. X [234], All. VI [544] see Vgr. 03 [108].

On dead stems of *Filipendula ulmaria,* common. *Filipendula hexapetala.* F. Skaarup.

2640. **Leptostroma virgultorum** Saccardo, Syll. III [369], All. VII [354].

On dead branches of *Rubus sp.* J. Marselisborg Skov ([18]/6 08!).

2641. **Leptostroma lineare** Léveillé, Syll. III [646], All. VII [357].

Peritheciis linearibus usque ad 4 mm long., atris. Sporulis ellipsoideis utrinque rotundatis, 8 µ × 4 µ, biguttulatis.

Pastinaca sativa. S. Lersøen (O. R.). *Tanacetum vulgare.* J. Feggeklit (Exc. [24]/7 10), Fredericia Vold!; S. Køge.

2642. **Leptostroma lonicericolum** Rabenhorst, Syll. III [647] & XVI [990], All. VII [351].

On twigs of *Lonicera xylosteum.* S. Aasevang (May 91 O. R.).

2643. **Leptostroma confluens** (Fries)!, Syn: Rhytisma conf. Fries S. M. II [570], Myxodiscus conf. (Schw.) v. Höhnel 06 a, Leptostroma eupatorii Allescher VII [349], Syll. XIV [994].

Eupatorium cannabinum. J. Klokkedalen ([22]/3 03!).

Melasmia.

2644. **Melasmia myriocarpa** spec. nov.

Maculis amphigenis, brunneis, magnis, indeterminatis. Peritheciis epiphyllis, gregariis, submagnis, semiimmersis, atris, contextu paren-

chymatico, ostiolo minuto. Sporidiis ellipsoideis, rectis, hyalinis, 8—10 μ × 3—4 μ, continuis, 2-guttulatis. Basidiis longis, cylindraceis, ramulosis, vel crasse bulbiformibus.

On leaves of *Polygonum convolvulus*. F. Skaarupør (2/8 1883).

Leptostromaceae—Phaeosporae.

Pirostoma.

2645. **Pirostoma circinans** Fries S. V. [395], Syll. III [653], All. VII [374], Syn: Coniosporium circ. Fries S. M. III [257].

Arundo phragmites. S. Hornbæk; L. Stensgaard. June—August.

Leptostromaceae—Hyalophragmiae.

Discosia.

2646. **Discosia artocreas** Fries S. V. [423], Syll. III [653], All. VII [377] c. icon., Syn: Sphaeria art. Tode, Fries S. M. II [523], Fl. D. tab. 2100 fig. 1, Xyloma fagineum Schum. no 1356, Bøgens Støvkugle (H. 37 [870]).

Very common on fallen leaves of *Lycopodium clavatum, Populus tremula, Quercus, Fagus, Sorbus, Acer, Oxalis acetosella*.

2647. **Discosia clypeata** de Notaris, Syll. III [654], All. VII [379] c. icon.

Quercus robur. S. Geelskov.

Entomosporium.

2648. **Entomosporium mespili** (de C.) Sacc., Syll. III [657], All. VII [384] c. icon., Syn: Ent. maculatum Lév., Syll. III [657], All. VII [384], Morthiera mespili Fuckel, Vildlingsvampen (Lind & Ravn 10 [29] c. icon.). Lit: R 84 g, 86 a, 88 m [21], 98 m, 00 k, 02 a [586], 06 dd, Er. 85 c. icon.

Is regarded to be the conidial fructification of Stigmatea mespili (see Ldau 08 [236]).

For the first time observed in the year 1883, later on very common and noxious in the gardens.

Cotoneaster integerrima B. Hammershus, Finnedalsbækken (C. H. O.), Gudhjem. *Cotoneaster nigra*. B. Hammershus. *Pirus, Cydonia, Mespilus*, common in the nurseries.

Leptostromaceae—Scolecosporae.

Actinothyrium.

2649. **Actinothyrium graminis** Fries S. M. II [597], Syll. III [658], All. VII [386].

On straw of *Molinia coerulea*, common, May—July. *Melica uniflora*. F. Bjørnemose.

Leptostromella.

2650. **Leptostromella juncina** (Fries) Sacc., Syll. III [660], All. VII [390], Syn: Leptostroma junc. Fries S. M. II [598].

Juncus effusus. F. Skaarup. *Juncus glaucus*. F, Svenborg.

2651. **Leptostromella hysterioides** (Fries) Sacc., Syll. III [659], All. VII [389] c. icon., Syn: Leptostroma hyst. Fries S. M. II [599].

Betonica officinalis. L. Rudbjerggaard. July.

Excipulaceae—Hyalosporae.

Excipula.

2652. **Excipula strobi** Fries S. M. II [190], Syll. III [668], All. VII [400].

A true parasite (see R 96 q [124]) on stems of *Pinus strobus*. S. Geelskov; L. Christianssæde.

2653. **Excipula empetri** Fries S. M. II [190], Syll. III [668], All. VII [400].

On leaves of *Empetrum nigrum*. S. Tisvilde Hegn (July 98).

2654. **Excipula prunellae** (Purton)!, Syn: Asteroma prun. Purt., Syll. III [210].

It is not at all identical with Asteroma brunellae All. VI [455], Syll. XIV [902] as Allescher says; its mycelium is very like dried specimens of "Hutschinsia" (it is Polysiphonia elongata) as Purton describes it.

Peritheciis solitariis, coriaceis, nigris, disciformibus. Sporidiis elongatis, rectis vel parum curvatis, hyalinis, eguttulatis, 6 μ × 2 μ, basidiis brevis insidentibus.

It is quite evident the conidial form of Beloniella brunellae see pag. 128.

On the upper side of living leaves of *Brunella vulgaris*. J. Greisdalen ($^{20}/_{10}$ 81).

2655. **Excipula impressa** (Fuckel) Diedicke 11 b, Syn: Asteroma imp. Fuck., Syll. III [211], All. VI [477].

Tussilago farfarus. J. Dvergetved (V. S.), Randbøldal, Herning; S. Holte!.

Catinula.

2656. **Catinula turgida** (Fries) Desm., Syll. III [673], All. VII [408], Syn: Excipula turg. Fries S. M. II [189].

Is the conidial fructification of Tympanis corylina (see Rehm III [220]).

Corylus avellana. S. Ravneholmene (May 91 O. R.).

Discula.

2657. **Discula microsperma** (B. & Br.) Sacc., Syll. III [675], All. VII [411] c. icon.

Salix cinerea. F. Holmdrup. *Salix caprea*. F. Vejstrup Aaskov. *Salix amygdalina*. S. (August. O. R.). *Salix rubra*. F. (February. Holt).

2658. **Discula quercina** (Cooke) Saccardo, Syll. III [675].

Quercus robur. S. Lyngby Mose (May 91 O. R.). *Quercus prinoides*. S. Charlottenlund (June. O. R.). *Quercus americana*. S. Landbohøjskolens Have.

Sporonema.

2659. **Sporonema strobilinum** Desm., Syll. III [678] & X [435], All. VII [411], Syn: Hysterium conigenum Schum. no 1256 (according to specimens in Schumacher's herbarium), Fl. D. tab. 2330 fig. 3.

On cones of *Picea excelsa* and *Pinus*, common. April—July.

Psilospora.

Psilospora faginea is the conidial-form of Dichaena faginea and
— quercina — — quercina.

2660. **Psilospora faginea** (Fries) Rabenh., Syll. III [680], All. VII [417], Syn: Hysterium fag. Fries El. II [143] partim, R 80 a [181].

Very common on the bark of *Fagus silvatica*.

2661. **Psilospora quercina** (Fries)!, Syn: Hysterium querc. Fries El. II [143] partim, Psil. quercus Rabenh., Syll. III [680], All. VII [418], R 80 a [181].

Very common on the bark of *Quercus robur*.

Amerosporium.

2662. **Amerosporium trichellum** (Fries)!, Syn: Sphaeria trichella Fries S. M. II [515], Vermicularia trich. Fries El. II [109], Syll. III [224], All. VI [496], Colletotrichum gloeosporioides Penz. & Sacc. var. hederae Passerini, Syll. X [470], All. VII [559], Colletotrichum hedericola Laubert 07 [503].

This species is a true parasite on living leaves of Hedera helix and also originally described (Fries 17 [256]) on this host-plant. It is surely limited to this host and not to be confused with other forms of Vermicularia or Amerosporium on Citrus etc.

Small dark acervuli are produced on the dead circular spots on the leaves. The spores are produced on short conidiophores, among which are interspersed, especially at the margin of the acervuli, cetae from 60—100 μ long and at the ground 5 μ broad, 1—2-septate or smaller and unseptate; the spores are 26—32 μ × 5—6 μ.

Hedera helix. J. Krabbesholm Skov!, Munkebjerg; S. Glyptothekshallen!. *Hedera colchica.* F. Odense ($^{24}/_{7}$ 85).

Dinemasporium.

2663. **Dinemasporium strigosum** (Fries) Sacc., Syll. III [683] & XI [560], All. VII [426], Syn: Peziza strig. Fries S. M. II [103], Excipula strigosa Corda.

Glyceria aquatica. J. Rindsholm (Gad); F. Skaarup. *Arundo phragmites.* J. Viborg!. *Avena pubescens.* S. Søborg (Exc. $^{14}/_{6}$ 83).

2664. **Dinemasporium graminum** Léveillé, Syll. III [683], All. VII [421].

Dactylis glomerata. J. Viborg!. *Festuca pratensis.* J. Viborg!. *Bromus inermis.* S. København (O. R.). *Avena sativa.* J. Gaardbogaard (O. R.); S. Tokkekøb Hegn, Ørsløv (Aug. 88 O. R.). *Typha latifolia.* Ravneholmene (O. R.).

2665. **Dinemasporium microsporum** Sacc., Syll. III [684], All. VII [428].

Scirpus lacustris. S. Aasevang (May 91 O. R.).

2666. **Dinemasporium herbarum** Cooke, Syll. III [685], All. VII [425].

On stems of *Humulus lupulus.* J. Bygholm ($^{24}/_{2}$ 09!). *Monotropa hirsuta.* F. Skaarup ($^{24}/_{4}$ 83). *Galium sp.* S. Flaskekroen.

2667. **Dinemasporium hispidulum** (Fries) Sacc., Syll. III [685], All. VII [424] c. icon., Syn: Peziza hisp. Schrader, Fries S. M. II [98].

On dead stems of *Anthriscus silvester.* S. Brønshøj ($^{17}/_{5}$ 07!).

2668. **Dinemasporium pezicula** Berkeley & Cooke, Syll. III [685].

Sambucus racemosa. S. Ravneholmene (June 91 O. R.).

Excipulaceae—Hyalodidymae.

Discella.

2669. **Discella carbonacea** (Fries) Berk. & Br., Syll. III [687], All. VII [433] c. icon., Syn: Phacidium carb. Fries S. M. II [574], Lit: R 02 a [596], 03 e.

Is the conidial fructification of Gnomonia salicella (R 80 a [197]).

Very common on dead twigs of *Salix caprea, caprea* × *viminalis, viminalis, incana, alba, alba* × *amygdalina, babylonica, grandifolia* etc.

Excipulaceae—Hyalophragmiae.

Excipulina.

2670. **Excipulina pinea** (Karsten) v. Höhnel 03, Syn: Rhabdospora pinea K., Syll. III [585], All. VI [916], Brunchorstia destruens Er., Syll. X [431], All. VII [387]. Lit: R 02 a [535].

Is the conidial fructification of Cenangium ferruginosum.

Common on many different Coniferae, recorded on *Picea excelsa, Pinus silvestris, austriaca, strobus* and *Strobus excelsa.*

Pilidium.

2671. **Pilidium fuliginosum** (Fries) Awd., Syll. III [689], All. VII [437], R 99 a [264].

Supposed to constitute the conidial fructification of Scleroderris fuliginosa (see K. 90 [81]).

Salix alba. S. Damhussøen; L. Stensgaard. *Salix caprea* × *viminalis.* J. Hollund Søgaard ([18]/9 95).

Heteropatella.

The form-species of Heteropatella are regarded as the conidial forms of the species of Heterosphaeria; the same perithecium is commonly producing first conidia and later on asci.

Heteropatella	Bonordenii	corresp. to	Heterosphaeria	patella.
—	cercosperma	—	—	patella var alpestris.
—	lacera	—	—	linariae.

2672. **Heteropatella Bonordenii** (Hazl.)!, Syn: Excipula Bon. Hazl. 83 [250], Heterosphaeria patella Bonorden non Grév., Heteropatella patella (Bon.), Excipulina patella v. Höhnel 05. Lit: Tul. Carp. III [175] c. icon., Bref. Unt. X [282] c. icon.

Hazslinszky has for the first time given it a special name, in recent manuals it is often confused with no 2674.

On dead stems of *Daucus carota,* very common. *Anthriscus silvester.* S. Lyngby ([3]/3 1911!).

2673. **Heteropatella cercosperma** (Rostrup)!, Syn: Septoria cerc. R 83 b, Rhabdospora cerc. Sacc., Syll. X [391], Kellermannia cerc. Lind 10 b [159], Rhabdospora caudata (Karsten) Sacc., Syll. III [593], Kellermannia rumicis Fautrey, Syll. XIV [964], All. VI [992], Lit: Vestergren 00, v. Höhnel 09 [886], R 92 a [626].

On dead stems of *Rumex acetosa.* J. Skive!, Viborg! (Exs. Kab. & Bub. no 426); S. Islemark (O. R. see R 05 b [312]). *Rumex acetosella.* J. Skive!.

2674. **Heteropatella lacera** Fuckel, Syll. III [670], All. VII [403] c. icon., Syn: Pestalozzia phacidioides Ces nom. nud., Syll. III [801], Lit: Rehm III [204], Wt. 74.

On dead leaves and stems of *Linaria vulgaris*. J. Feldborg ([25]/10 81); S. Stevns Jærnet ([17]/7 89).

Melanconiales.
Melanconieae—Hyalosporae.
Gloeosporium.

Recent investigations (see Klebahn 06, Shear 07, Lind 08 [17], Potebnia 10, Vleugel 11, Grove 12 etc.) as have been made, indicate that the form-species of Gloeosporium can be regarded as representing the conidial fructifications of different genera of Ascomycetes as well of Pyrenomycetes (see pag. 232) as of Discomycetes (see pag. 140).

2675. **Gloeosporium pteridis** (Kalchbr.) Bub. & Kab. 06, Syn: Fusidium pter. Kalchbr., Syll. IV [31], Ldau. VIII [66].

Is the conidial form of *Cryptomyces pteridis* and found on the same places.

2675 b. **Gloeosporium equiseti** Ell. & Ev., Syll. X [463], All. VII [472], see tab. VIII figg. 95—96.

Equisetum fluviatile. S. Hvalsø ([9]/9 11! Exs. Kab. & Bub.).

2676. **Gloeosporium taxicolum** All. VII [503], Syll. XIV [1011].

Taxus baccata. S. Giesegaard ([22]/8 09!).

2677. **Gloeosporium dactylidis** Rostrup 92 g [77], 93 [4], 02 a [583], Syll. XI [567], All. VII [471].

Acervulis erumpentibus, luteo-fuscis. Conidiis oblongis, hyalinis, 5 µ × 1 µ.

On branches of the top of *Dactylis glomerata*. S. Lyngby Mose ([5]/7 90).

2678. **Gloeosporium secalis** Rostrup 05 e [360], see tab. VIII fig. 97.

Maculis albidis, gregariis, ellipsoideis, saepe confluentibus. Acervulis disciformibus, primo luteis, dein fuscis, erumpentibus. Conidiis ellipsoideis, oblongis, curvulis, hyalinis, continuis, 18—21 µ × 5 µ.

On leaves of *Secale cereale*. J. Hinnerup ([25]/4 04 S. Nielsen).

2679. **Gloeosporium graminum** R 92 g [77], 93 [4], 02 a [583], Syll. XI [567], All. VII [483].

Acervulis epiphyllis, gregariis, minutis, fuscis. Conidiis irregularibus, oblongis, 11—14 µ × 4—6 µ.

Lolium multiflorum. S. Dronninggaard ([5]/6 90).

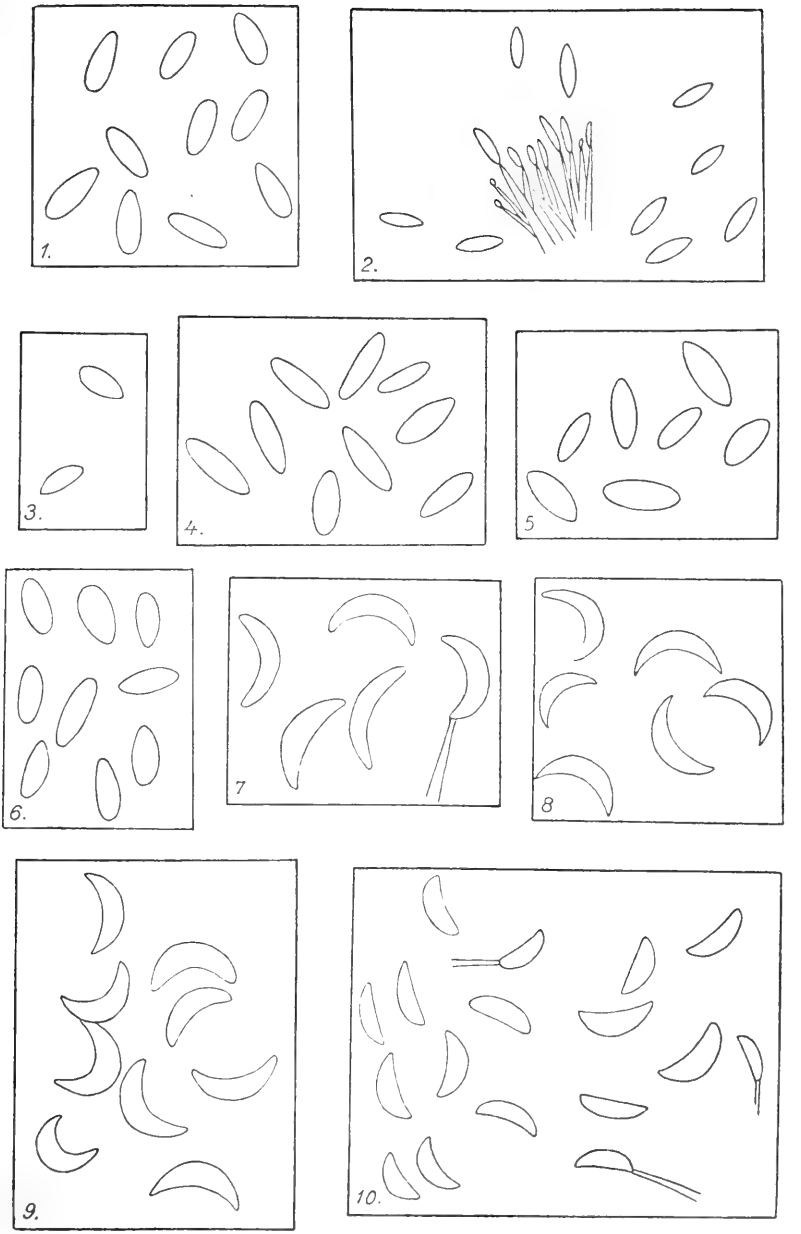


Fig. 33.

1–6 Spores of Gloeosporium amentorum.

1 & 2 on Salix cinerea, 3 on Salix pedicellata, 4 on Salix aurita, 5 on Salix viminalis & caprea, 6 on Salix viminalis.

7–9 Spores of Gloeosporium lapponum.

7 on Salix repens, 8 on Salix lapponum, 9 on Salix nigricans.

10 Spores of Gloeosporium deformans on Salix caprea.

From Lind 08.

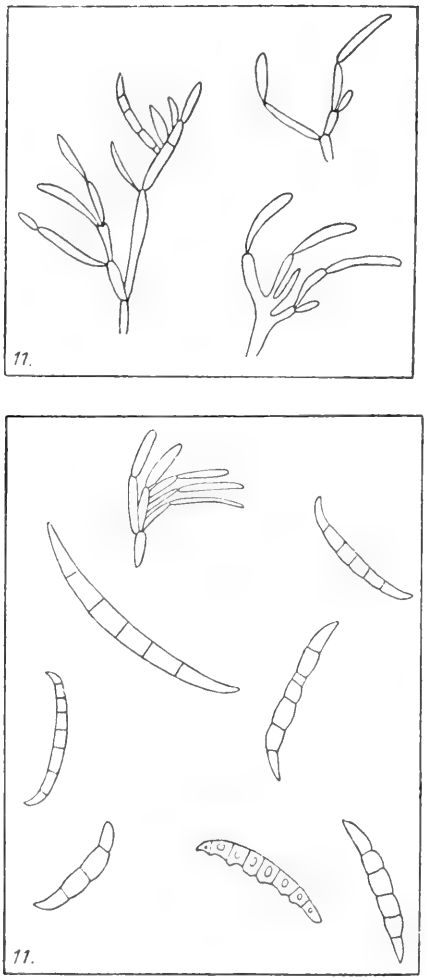


Fig. 34.
Spores of Gloeosporium deformans on Salix caprea.
10 in its Gloeosporium-stage, 11 in its Fusarium-stage. From Lind 08.

2680. **Gloeosporium stanhopeae** All. VII [502], Syll. XIV [1011].

Stanhopea. S. Botanisk Have (5/6 95).

2681. **Gloeosporium maxillariae** All., Syll. XIV [1012], Syn: Gloeosp. oncidii Ouds., Syll. XI [567], All. VII [485].

Maxillaria sp. S. Botanisk Have (Jan. 09 A. Lge).

2682. **Gloeosporium cinctum** Berk. & Cooke, Syll. III [721], R 99 a [270], 02 a [582] c. icon.

Cattleja. S. Haveselskabets Have. *Vanda Batemani*. S. Botanisk Have (A. Lge). *Odontoglossum grande*. S. Rudersdal. *Dendrobium Dalhausianum*. F. Odense (Ravens).

2683. **Gloeosporium Thümenii** Saccardo, Syll. III [721], All. VII [454], R 02 a [583].

Aletris fragrans and *Dieffenbachia contorta*. S. Haveselskabets Have. *Aglaonema* sp., *Carludovica atrovirens*, *Smilax officinalis*. S. Botanisk Have. *Dracaena draco*. S. Landbohøjskolens Væksthus. *Alocacia violacea*. S. Høvdinggaard (Rasmussen).

2684. **Gloeosporium amentorum** (Delacr.) Lind 05 & 08 a [18] c. icon., Syn: Fusarium am. Delacr., Syll. XI [650], Fus. amenti Rostrup 85 a & 92 v [300] c. icon., Gloeosporium Beckianum Bäumler, Syll. XI [566], All. VII [500].

In the catkins of *Salix cinerea*, *viminalis*, *aurita* (Exs. Kab. & Bub. no 282), *dasyclados*, *caprea* × *viminalis*, *repens*, common, May—July.

2685. **Gloeosporium deformans** (Schroeter) Lind 05 & 08 a.
In the catkins of *Salix caprea*, common, May—July.

2686. **Gloeosporium lapponum** Lind 05 & 08 a [20] c. icon.
In the catkins of *Salix laurina*. J. Viborg ([6]/6 06!).

2687. **Gloeosporium salicis** West., Syll. III [711], All. VII [500], R 02 a [583].
On the leaves of *Salix alba*. F. Klingstrup (see R 80 a [196]). *Salix alba* · *fragilis*. J. Viborg (! Exs. Kab. & Bub. no 480); S. Nøddebo (R 92 g [77]), Gammelmose, Damhussøen. *Salix fragilis*. J. Viborg!; F. Ø. Aaby ([19]/7 70), Skaarup; S. Taarbæk (A. B.).

2688. **Gloeosporium tremulae** (Lib.) Passer., Syll. III [712], All. VII [494], R 02 a [583].
On leaves of *Populus tremula*, common July—September (Exs. Kab. & Bub. no 327).

2689. **Gloeosporium populi-albae** Desm., Syll. III [712], All. VII [495].
Populus alba × *tremula*. S. Fredriksværk. June.

2690. **Gloeosporium cylindrospermum** (Bon.) Sacc., Syll. III [715], All. VII [453], R 02 a [582], Syn: Gloesp. alneum Klebahn 08 b.
Very common on leaves of *Alnus glutinosa*. Aug.—October. *Alnus incana*. S. Dyrehaven (A. B.).

2691. **Gloeosporium coryli** (Desm.) Sacc., Syll. III [712], All. VII [468] c. icon.
Corylus avellana. J. Dallerup near Horsens ([26]/10 03!).

2692. **Gloeosporium betulae** (Lib.) Mont., Syll. III [714], All. VII [458] c. icon.
On leaves of *Betula alba*. J. Gøddinggaard. October.

2693. **Gloeosporium carpini** (Lib.) Desm., Syll. III [712], All. VII [461], R 02 a [582].
Carpinus betulus. J. Horsens!; S. Geelskov, Frederiksberg Have.

2694. **Gloeosporium umbrinellum** Berk. & Br., Syll. III [711], All. VII [496].
Quercus rubra. F. Langkildegaard (Langkilde).

2695. **Gloeosporium quercinum** West., Syll. III [714], All. VII [495], R 93 a [109] & 02 a [582].
On living leaves of *Quercus robur*, common. *Quercus sessiliflora*. J. Dollerup!.

2696. **Gloeosporium cinerascens** Bubak. Annal. myc. 1904.
Quercus robur. J. Dronninglund Storskov!; S. Espergærde (J. Vleugel), København (Jensen).

2697. **Gloeosporium fagi** (Rob. & Desm.) West., Syll. III [713], All. VII [474] c. icon., R 02 a [582].

Fagus silvatica, common, recorded from J. Viborg!; F. Klingstrup; S. Raavad (A. B.), Farum Lillevang (R 83 d [296]), Fredriksdal.

2698. **Gloeosporium elasticae** Cooke & Massee, Syll. X [456], All. VII [475], R 02 a [583].

Ficus elastica. J. Holstebro (R. Michaels [10/8] 96); S. Holte (Boas).

2699. **Gloeosporium epicarpii** Thümen, Syll. III [720], All. VII [481].

On the fruit of *Juglans regia*. F. Odense. September.

2700. **Gloeosporium concentricum** (Grev.) Berk. & Br., Syll. III [701], All. VII [459].

Brassica oleracea. L. Nakskov ([18/11] 98 Erh. Frederiksen).

2701. **Gloeosporium Haynaldianum** Sacc. & Roum., Syll. III [700], All. VII [484].

Magnolia Soulangeana. F. Langkildegaard (H. Langkilde).

2702. **Gloeosporium tiliae** Ouds., Syll. III [701], All. VII [503] c. icon., R 98 d & 02 a [580], Syn: Gloeosp. til. Ouds. var maculicolum All., Syll. XIV [1005], Laubert 04.

On leaves of *Tilia intermedia & cordata*, very common, Aug.—Octob.

2703. **Gloeosporium acerinum** West., Syll. III [703], All. VII [452], R 02 a [582].

Acer pseudoplatanus. S. Folehave, København (O. R.). *Acer campestre*. Lang. Carlseje; S. Dyrehaven (A. B.). *Acer rufinerve*. S. Hæsede Planteskole. *Acer obtusifolium*. S. Landbohøjskolens Have.

2704. **Gloeosporium ribis** (Lib.) Mont., Syll. III [706], All. VII [498] c. icon., R 02 a [580], Ribsbuskenes Skivesvamp (Lind & Ravn 10 [51] c. icon.), Lind 10 k.

Very common on living leaves of *Ribes grossularia, rubrum, nigrum, aureum, alpinum*.

2705. **Gloeosporium curvatum** Ouds., Syll. III [707], All. VII [499].

Ribes nigrum. J. & F. *Ribes alpinum*. F. & Moen.

2706. **Gloeosporium nervisequum** (Fuckel) Sacc., Syll. III [711], All. VII [490] c. icon., Syn: Gloeosp. platani (Mont.) Ouds., Syll. III [711], All. VII [491] c. icon., Myxosporium valsoideum (Sacc.) All., Syll. III [716], All. VII [524] c. icon., Gloeosporium vals. Sacc., Lit: R 02 a [579] c. icon., 02 a [580], 02 q.

Is the conidial fructification of Gnomonia veneta (see Kleb. 05).

Common on leaves and twigs of *Platanus occidentalis* and *orientalis*.

2707. **Gloeosporium venetum** Spegazzini, Syll. III [706], All. VII [499]. *Rubus* sp. J. Horsens Fjord ([24]/9 01!).

2708. **Gloeosporium sorbi** Rostrup 99 a [269], Syll. XVI [998], All. VII [952].

Maculis subcircularibus, numerosis, parvulis, cinerascentibus, fusco-cinctis, epiphyllis; acervulis brunneis oblongis, irregularibus; conidiis oblongis 8 μ × 4 μ.

In living leaves of *Sorbus fennica*. S. Landbohøjskolens Have ([13]/9 98).

2709. **Gloeosporium fructigenum** Berkeley, Syll. III [718], All. VII [492] c. icon.

On apples. S. Rosenvænget (Dec. 85).

2710. **Gloeosporium patella** Penzig & Sacc., Syll. III [705], All. VII [477].

Castanospermum australe (hosp. nov.). S. Botanisk Have ([24]/5 05).

2711. **Gloeosporium trifolii** Peck, Syll. III [705], R 96 n [138], 97 i, 00 a [21], 02 a [581], 02 c [123], 03 d [367], 05 e [363], Kirchner 02 [12].

Trifolium repens. J. Donneruplund (Bülow). *Trifolium pratense*. J. Askov ([16]/6 96 Fr. Hansen. New for Europe, again [13]/6 99 N. J. Nielsen); S. Bidstrup!. *Medicago sativa*. F. Klarskov (Hedegaard).

2712. **Gloeosporium orbiculare** Berkeley, Syll. III [720], All. VII [470], R 96 f, 99 i, 02 a [582].

Cucumis sativus. F. Mullerup (June 96. Christensen).

2713. **Gloeosporium helicis** (Desm.) Ouds., Syll. III [707], All. VII [477] c. icon.

Hedera helix. J. Skovby (! Exs. Kab. & Bub. no 679); F. Skaarup, Møen Ulfshale.

2714. **Gloeosporium achaeniicola** Rostrup 99 a [269], see tab. VIII figg. 98—100.

Acervulis numerosis, cinerascentibus, in striis curvatis ordinatis; conidiis conico-oblongis 9—13 μ × 2,5—3,5 μ.

On fruit of *Pastinaca sativa*. S. Flaskekroen ([25]/8 98). On peduncles of *Petroselinum sativum*. F. Middelfart ([14]/8 93 Sundorph).

2715. **Gloeosporium alpinum** Sacc., Syll. III [708], All. VII [457].

Arctostaphylos uva ursi. J. Vestervang (R 92 g [77]).

2716. **Gloeosporium phomoides** Sacc., Syll. III [718], All. VII [483].

On fruit of *Solanum lycopersicum*. S. Brede (Sept. 96).

2717. **Gloeosporium digitalidis** Rostrup 99 a [269], Syll. XVI [1001], All. VII [949].

Maculis amphigenis, magnis, fuscis; acervulis epiphyllis, subconcentricis, depressis, brunneolis; conidiis oblongis, continuis, 8—10 μ · 3—4 μ.

On living leaves of *Digitalis purpurea*. S. Landbohøjskolens Have ($^{14}/_{8}$ 98).

2118. **Gloeosporium veronicarum** Cesati, Syll. III [710], All. VII [506], Syn: Gloeosp. pruinosum Bäumler Syll. X [460], All. VII [506], Gloeosp. arvense Sacc., Syll. III [710], All. VII [506] (see Lind 08 b).

Veronica Tournefortii. S. København (! Exs. Kab. & Bub. no 528). *Veronica hederifolia*. J. Horsens ($^{8}/_{4}$ 02 !).

2719. **Gloeosporium samararum** All. VII [477], Syll. XIV [1009].

On fruit of *Fraxinus excelsior*. S. Ruderhegn (Sept. 11 O. R.).

2720. **Gloeosporium allantosporum** Fautrey, Syll. XI [563], All. VII [455], Syn: Gloeosp. vincetoxici Fautrey, Syll. X [460].

On living leaves and dead stems of *Cynanchum vincetoxicum*. B. Svaneke ($^{22}/_{8}$ 11 !).

2721. **Gloeosporium sonchi** Rostrup 05 b [312].

Maculis amphigenis, irregularibus, fuscis, centro pallidiore, rubrocinctis; acervulis epiphyllis, brunneis; conidiis oblongis, curvulis 9—10 μ l., 4 μ cr., hyalinis.

On leaves of *Sonchus paluster*. F. Bjørnemose.

Myxosporium.

2722. **Myxosporium abietinum** Rostrup 01 m [98], 02 a [586].

Acervulis gregariis, parvis, rufo-fuscis, disciformibus vel irregularibus, erumpentibus; conidiis hyalinis, oblonge-valsoideis, 22—28 μ × 8—12 μ, plasmate granuloso farctis, pedicellatis (R).

In the bark of stems of different species of Coniferae. *Picea sitchensis*. F. Glorup. *Pinus strobus*. J. Silkeborg. *Pseudotsuga Douglassii*. J. Friisenborg; F. Glorup Dyrehave ($^{16}/_{8}$ 99). *Larix decidua*. J. Feldborg.

2723. **Myxosporium salicinum** Sacc. & Roum., Syll. III [724], All. VII [530] c. icon., R 01 m [98] & 02 a [585].

Salix alba. J. Brønderslev (Spejlborg); S. Lersøen, Giesegaard. *Salix vitellina*. F. Vængemose. *Salix viminalis*. S. Lersøen. *Salix caprea* × *viminalis*. F. Skaarup. *Salix purpurea*. J. Albæk Plantage. *Salix daphnoides*. S. Lersøen.

2724. **Myxosporium populi-tremulae** (Lamb.) Sacc., Syll. III [724], All. VII [526], R 01 m & 02 a [586].

Populus tremula. F. Skaarup. *Populus alba*. S. Helene Kilde.

2725. **Myxosporium bellulum** (Preuss) Sacc., Syll. III [727], All. VII [512].

Acervulis ramigeris, erumpentibus; conidiis ellipsoideis, rectis, hyalinis, 13—16 µ × 4 µ, plasmate granuloso farctis.

Alnus glutinosa. F. Klingstrup ($^{11}/_{1}$ 65).

2726. **Myxosporium alneum** Rostrup 01 m [97], 02 a [586].

Acervulis ramigeris, dense gregariis, parvulis, e basi suborbiculari depresse conicis vel verrucaeformibus supra corticis interioris superficiem parum protuberantibus; conidiis hyalinis, oblongis, 24—28 µ × 9—10 µ, pedicellatis, plasmate granuloso farctis.

A true parasite attacking the bark of the 5 cm thick branches of Alnus; the infested areas are grayish-brown, slightly sunken and sharply delimited from the healthy tissue.

Alnus incana. J. Trelde Skov ($^{4}/_{9}$ 00).

2727. **Myxosporium devastans** Rostrup 93 a [115], 01 m, 02 a [585], Syll. XI [569], All. VII [515].

A true parasite and very destructive.

Acervulis verrucaeformibus, erumpentibus, denique disciformibus, parvulis, fuscis. Conidiis hyalinis, 7—9 µ × 3—4 µ, biguttulatis, basidiis ramosis insidentibus, in cirrhis albidis expulsis.

Betula verrucosa. J. Feldborg (Heilmann), Friisenborg (Winge), Svanemose near Stenderup (Falkenberg); F. Bederslev Dale (J. Bang); S. Jyderup, Vemmetofte, Stubberup (Aug. 1891). *Acer pseudoplatanus.* S. Odsherred Mantzhøj ($^{19}/_{6}$ 95 Kofod see R 96 q [123]).

2728. **Myxosporium coryli** Oudemans, Syll. XVI [1005], All. VII [954].

Corylus avellana. J. Krabbesholm Skov ($^{23}/_{5}$ 04!).

2729. **Myxosporium griseum** (Fries) Sacc., Syll. III [726], All. VII [518], R 01 m [96] & 02 a [586], Syn: Nemaspora grisea (Pers.) Fries El. II index.

Corylus avellana. J. Trelde Skov; S. Hjortshøj.

2730. **Myxosporium fuscum** Bonorden, Syll. III [725], All. VII [517].

Corylus avellana. S. København (Ø. W. 05).

2731. **Myxosporium deplanatum** (Libert) Sacc., Syll. III [725], All. VII [515].

On dead twigs of *Carpinus betulus.* S. Charlottenlund (June 05 O. R.).

2732. **Myxosporium carneum** Libert, Syll. III [725], All. VII [519] c. icon., R 93 a [116], 01 m [95], 02 a [584].

Quite common on twigs of *Fagus silvatica,* March—May (Exs. Kab. & Bub. no 632).

2733. **Myxosporium lanceola** Sacc. & Roum., Syll. III [726], All. VII [513] c. icon., R 93 a [116], 01 m, 02 a [584] c. icon., Metzger 09.

Very common on *Quercus robur* especially of forreign origin. *Quercus*

macrocarpa. F. Tangegaard (H. Sehested). *Quercus imbricaria.* S. Landbohøjskolens Have. *Quercus prinoides.* S. Charlottenlund.

2734. **Myxosporium taleola** Saccardo, Syll. III [726], All. VII [527].
Quercus sessiliflora. J. Feldborg (Joh. Helms).

2735. **Myxosporium coloratum** (Peck) Sacc., Syll. III [722].
Liriodendron tulipifera. S. Landbohøjskolens Have (New for Europe).

2736. **Myxosporium piri** Fuckel, Syll. III [722], All. VII [523], R 02 a [584].
Pirus communis. S. Strandvejen (Oct. 89 see R 90 1 [577]).

2737. **Myxosporium subfalcatum** (B. R. S.) All. VII [531], Syll. X [451].
Sarothamnus scoparius. J. Hadsund, S. Køge.

2738. **Myxosporium corni** Allescher VII [516], Syll. XI [568].
Cornus sanguinea. S. København (Jan. 05 O. R.).

2739. **Myxosporium lycii** Allescher VII [523], Syll. XIV [1015].
Lycium halimifolium. S. Vordingborg ([15]/1 09!).

2740. **Myxosporium sticticum** Karsten, Syll. III [726], All. VII [520], Syn: Myx. carneum Lib. f. sticticum K.
Fraxinus excelsior. J. Krabbesholm Skov ([26]/3 05!); S. Vordingborg!.

Naemaspora.

2741. **Naemaspora flava** (Bon.) Sacc., Syll. III [798], All. VII [541].
Quercus robur. S. Sorø ([5]/9 91), Vemmetofte.

2742. **Naemaspora Corchorii** (Kalchbr.) Sacc., Syll. III [747], All. VII [540].
Kerria japonica. J. Nebsager (July 91 O. R.).

Trullula.

2743. **Trullula olivascens** Sacc., Syll. III [731], All. VII [548] c. icon.
On dead twigs of *Populus tremula.* J. Harrestrup Krat ([8]/4 06!).

Colletotrichum.

2744. **Colletotrichum Lindemuthianum** (Sacc.) Bres., Syn: Gloeosporium Lindem. Sacc., Syll. III [717], All. VII [488], R 02 a [581], Lind & Ravn 10 [68] c. icon.
Very common on pods, stems and leaves of *Phaceolus vulgaris, compressus, nanus, multiflorus* etc. June—October.

2745. **Colletotrichum malvarum** (Braun) Southw., Syll. X [468], All. VII [561] c. icon., Syn: Steirochaete malv. Braun, Syll. IV [316]. Lit: Er. 91, Lind 11 b c. icon.

A true parasite and very destructive. On the leaves and stems of *Lavatera trimestris* (hosp. nov.). J. Aalborg (! 3/8 11, Exs. Kab. & Bub. no 683), Hovedgaard!, Rodved Kærsgaard!; S. Lyngby (M. L. M.).

Melanconieae—Phaeosporae.

Melanconium.

The form-species of Melanconium may often represent conidial stages of species of Melanconis see pag. 247, other form-species seem to represent conidial stages of other genera of Pyrenomycetes for instance corresponds Melanconium melaspora to Trichosphaeria sacchari (see Massee in Annals of Botany VII [515]) and Fuckel is regarding Melanconium sphaerospermum as the conidial form of Leptosphaeria arundinacea.

2746. **Melanconium typhae** Peck, Syll. III [759], All. VII [584].
Typha latifolia. J. Viborg!; F. Kirkeby (19/7 83).

2747. **Melanconium sphaerospermum** Fries S. M. III [489], Syll. III [759], All. VII [570] c. icon., Syn: Stilbospora sphaer. Pers., Schum. no 1360.
Arundo phragmites. J. Trelde (Exc. 24/7 88); F. Skaarup, Bjørnemose.

2748. **Melanconium sphaeroideum** Fries S. M. III [488], Syll. III [755], All. VII [568] c. icon., Syn: Sphaeria microsperma Schum. no 1359.
Alnus incana. S. Tisvilde, Lerchenfeldt. *Alnus glutinosa*. very common May—August.

2749. **Melanconium ramulorum** Corda, Syll. III [754], All. VII [573] c. icon.
Carpinus betulus. S. Frederiksberg Have, October.

2750. **Melanconium elevatum** (Fries)!, Syn: Didymosporium el. Fries S. M. III [486], Melanconium betulinum Kze. & Schm., Syll. III [756], All. VII [572] c. icon.
Carpinus betulus. J. Viborg!. *Betula verrucosa*. S. Ruderhegn (O. R.), Holsteinborg.

2751. **Melanconium bicolor** Fries S. M. III [488], Syll. III [755], All. VII [571].
Common on twigs of *Betula alba*.

2752. **Melanconium stromaticum** Corda, Syll. III [750], All. VII [573] c. icon.
Fagus silvatica. S. Jægersborg (30/8 89), Wildersplads (Weismann).

2753. **Melanconium juglandinum** Kze., Syll. III [753], All. VII [577] c. icon.
Juglans regia. F. Broholm, Klingstrup; S. Landbohøjskolens Have.

2754. **Melanconium oblongum** Berkeley, Syll. III [752].
Juglans mantchurica. S. Landbohøjskolens Have. (New for Europe).

2755. **Melanconium pallescens** Bäumler, Syll. X [473], All. VII [575].
Cornus alba. S. Landbohøjskolens Have.

2756. **Melanconium magnum** (Grev.) Berk., Syll. III [753], All. VII [568].
Acer pseudoplatanus. S. Avderød ([21]/3 90).

Thyrsidium.

2757. **Thyrsidium botryosporum** Montagne, Syll. III [761] & X [474], All. VII [591] c. icon.
Fagus silvatica. S. Jægersborg ([29]/3 81 V. Sarauw).

Melanconieae—Hyalodidymae.

Marssonina.

Into the form-genus Marssonina — formerly called Marsonia or Marssonia (see Magnus 06) — I am also including the forms of Actinonema. Rostrup (02 a [591]) and v. Höhnel (07 b) also classifies Actinonema under Melanconiales. The form-species of Marssonina are very close related the species of Gloeosporium and as the latter to be regarded as conidial forms as vel of Discomycetes as of Pyrenomycetes, viz:

Marssonina salicicola corresp. Pyrenopeziza salicis capreae (see Jaap 10 b [123]).

—	Delastrei	—	Niptera agrostematis.
—	rosae	—	Diplocarpon rosae (see Wolf 12 b).
—	potentillae	—	Coleroa polentillae.
—	juglandis	—	Gnomonia leptostyla (see Klebahn).

2758. **Marssonina secalis** (Ouds.) Magnus, Syll. XIV [1022], All. VII [610], Syn: Marsonia secalis Ouds. 97 [88] & 98 [181], Rhyncosporium graminicola Heinsen apud Frank 97 [518], Heinsen 01, Marssonia gram. Kirchner 06 [71], Byggets Marssoniose (F. K. R. 01 [211]), Lit: R 99 c [124], 02 a [596], Jungner 06 tab. VII fig. 9 (without name).

Milium effusum. F. Skaarup. *Triticum repens*. B. Almindingen (R 06 dd). *Hordeum sativum*. F. Skaarup, Klingstrup (F. K. R.); S. Lyngby. *Avena sativa*, quite common.

2759. **Marssonina salicicola** (Bres.) Magnus, Syll. XI [574], All. VII [609].

Salix alba. S. Damhussøen.

2760. **Marssonina obscura** (Romell) Magnus, Syll. X [478], All. VII [609], Lit: Lind 10 a c. icon.

Salix cinerea. S. Lyngby!. *Salix caprea*. J. Svinkløv ($^{7}/_{9}$ 02!).

2761. **Marssonina populi** (Libert) Magnus, Syll. III [767], All. VII [605] c. icon., Syn: Marssonina Castagnei (Mont.) Magnus, Syll. III [768], All. VII [606].

Populus alba. J. Tannishus!, Skive!; S. Taarbæk (A. B.), Eskildstrup (R 95 a [212]). *Populus deltoides*. J. Sulsted.

2762. **Marssonina betulae** (Libert) Magnus, Syll. X [477], All. VII [597]. Conidiis hyalinis, 1-septatis, 18—24 µ × 7—8 µ.

Betula verrucosa. S. Ruderhegn ($^{17}/_{7}$ 08!).

2763. **Marssonina juglandis** (Libert) Magnus, Syll. III [768], All. VII [602], Syn: Depazea juglandicola Ørsted 63 c, Bladpletsyge paa Valnød (Ørsted), Lit: R 92 j [59].

Very common on leaves, fruit and twigs of *Juglans regia*, June—Dec.

2764. **Marssonina Delastrei** (Delacr.) Magnus, Syll. III [770], All. VII [596] c. icon.

Viscaria purpurea. J. Fredrikshavn!, Dommerby!. *Coronaria flos cuculi*. J. Bangsbo!, Viborg!. *Melandrium album*. J. Bangsbo!; F. Vejstrup Aaskov (R 95 a [212]). *Melandrium rubrum*. J. Bangsbo!, Skive!, Nørholm!. *Agrostemma githago*. J. Bangsbo!, Aalborg (F. K. R.), Viborg!; F. Skaarup ($^{6}/_{6}$ 74); S. Rørvig, Faarevejle, Sønderso (F. K. R.), Lyngby, Ørsløv (P. N.) and many other places.

2765. **Marssonina aquilegiae** (Rbh.)!, Syn: Depazea aq. Rbh. in Klotzsch Herb. Mycol. no 1651, Ascochyta aq. Sacc., Syll. III [396], All. VI [630], Gloeosporium radiosum Rostrup 99 [269], Lit: v. Höhnel 05 [406], see tab. VIII.

Maculis griseo-fuscis, marginatis, amphigenis, irregularibus, praesertim in margine foliorum; fibrillis albis, epiphyllis, epidermide impresso-adnatis, radiosis; acervulis flavis, epiphyllis; conidiis leniter curvatis, hyalinis, longe continuis, denique 1-septatis, ad sepimento constrictis, 4-guttulatis, 15—18 µ × 3—5 µ, in cirrhis rhodoleucis expulsis.

Quite common on living leaves of *Aquilegia vulgaris*, recorded from J. Gudumholm (Friederichsen); S. Lyngby (K. H. Sept. 97), Tystofte.

2766. **Marssonina clematidis** (All.) Magnus, Syll. XIV [1026], All. VII [598].

Maculis marginatis; conidiis ovato-cylindraceis, denique 1-septatis, 12—20 µ × 5—5,5 µ.

Thalictrum minus. J. Tannishus ([6]/9 06!).

2767. **Marssonina actaeae** Bresadola, Syll. XI [573], All. VII [596], Syn: Actinonema ac. All. VI [706], Syll. XIV [948].

Actaea spicata. Møens Klinteskov abundantly, August.

2768. **Marssonina decolorans** Kab. & Bub. Exsicc. no 82.

On leaves of *Acer negundo.* J. Viborg ([19]/9 05!).

2769. **Marssonina truncatula** (Sacc.) Magnus, Syll. III [768], All. VII [595], R 02 a [596].

Acer negundo. F. Hofmansgave (Hofman-Bang). *Acer campestre.* J. Sekshøj. *Acer saccharinum.* F. Langkildegaard (H. Langkilde). *Acer monspessulanum.* F. Broholm (June see R 95 a [212]).

2770. **Marssonina capsulicola** (Rostrup) Magnus, Syll. XVI [1011], All. VII [601].

Acervulis roseis, rotundis v. oblongis, circiter 1 mm latis; conidiis ovoideis, 1-septatis, 24—30 µ l., loculo inferiore 5—7 µ cr., loculo superiore duplo crassiore (R 99 a [271]).

On the fruit of *Evonymus europaeus.* S. Trørød Mose ([27]/7 96 O. R.).

2771. **Marssonina daphnes** (Rob. & Desm.) Magnus, Syll. III [769], All. VII [599].

On living leaves of *Daphne mezereum.* J. Horsens (! [10]/8 11 see Lind 11 b).

2772. **Marssonina potentillae** (Desm.) Magnus, Syll. III [770], All. VII [607] c. icon.

Potentilla reptans. J. Horsens Fjord!; S. Tisso: L. Reersø ([10]/8 77). *Potentilla erecta.* J. Næsborg!: Falst. Horreby Lyng. *Comarum palustre.* J. Skive!, Rindsholm, Silkeborg (R 95 a [212]).

2773. **Marssonina potentillae** (Desm.) Magnus, var **fragariae** Sacc.

On living leaves of *Fragaria vesca.* J. Siig ([1]/7 07!); S. København!.

2774. **Marssonina rosae** (Libert)!, Syn: Actinonema rosae (Libert) Fries, S. V. [424], Syll. III [408], All. VI [708], Marssonia rosae Trail, Syll. X [477], All. VII [608], Mars. rosae (Bon.) Briosi & Cavara, Rosens Straalesvamp R 88 n [47], Rosens Straaleplet R 84 i, 02 a [591] c. icon., Lit: Fr. 85 [53] c. icon.

On living leaves of *Rosa centifolia, arvensis, pomifera, pimpinellifolia* etc. very common, June—October, for the first time found [16]/7 66.

2775. **Marssonina medicaginis** (Voss) Magnus, Syll. XI [573], All. VII [603], Syn: Gloeosporium Morianum Sacc., Syll. X [458], All. VII [485].

Conidiis cylindraceis, utrinque rotundatis, longe continuis, denique 1-septatis, hyalinis, 16—20 μ × 4 μ.

On leaves of *Medicago sativa* (hosp. nov.). J. Marselisborg ($^{12}/_{8}$ 11!).

2776. **Marssonina carnea** (Vgr.) Magnus, Syll. XIV [1021], All.VII [598].

On leaves of *Cytisus laburnum*. S. Vestre Kirkegaard. October.

2777. **Marssonina aurantiaca** (Link) Magnus, Syll. XIV [1022], All. VII [603], Syn: Gloeosporium aur. Sacc., Syll. III [717], Marsonia aur. Rostrup 95 a [212].

Conidiis oblongis, parum curvatis, 1-septatis.

Laserpitium latifolium. S. Landbohøjskolens Have. October.

2778. **Marssonina forsythiae** spec. nov., see tab. VIII fig. 105.

Maculis amphigenis, ampliusculis, cinereis, fuscomarginatis; acervulis diu subcutaneis demum erumpentibus, parvis, fulvis, subsuperficialibus, hemisphaericis; conidiis hyalinis, oblongis, utrinque rotundatis, 1-septatis, ad sepimento constrictis, 4-guttulatis, 10—12 μ × 4 μ.

In living leaves of *Forsythia fortunei*. S. Landsgrav ($^{22}/_{9}$ 10!).

2779. **Marssonina sambuci** (Rostrup) Magnus, Syll. XVI [1011], All. VII [609], R 99 a [270], 02 a [596].

Maculis amphigenis, brunneis, magnis, concentrice costulatis; acervulis minutissimis, ochraceis, orbiculariter dispositis; conidiis numerosis, oblongo-cylindraceis, 1-septatis, leviter constrictis, 9—10 × 4 μ.

Sambucus nigra. S. Lyngby (K. H.).

Septomyxa.

2780. **Septomyxa aesculi** Saccardo, Syll. III [766], All. VII [612].

Fuckel supposes it to represent the conidial stage of Cryptospora aesculi.

Aesculus hippocastanum. S. Hellerup ($^{21}/_{3}$ 08).

Melanconieae—Hyalophragmiae.

Septogloeum.

2781. **Septogloeum salicinum** (Peck) Sacc., Syll. III [802], All. VII [626].

On leaves of *Salix caprea*. J. Fredrikshavn!.

2782. **Septogloeum lathyri** Lind 07 c [277], see tab. VIII.
On stems and leaves of *Lathyrus silvester*. S. Geelskov (Octob. 06 M. L. M.).

2783. **Septogloeum fragariae** (Briand & Har.) v. Höhnel 03, Syn: Stagonospora frag. Briand & Har., Syll. X [333], All. VI [974], Septogloeum comari All. VII [623], Syll. XI [581], Septogloeum potentillae All. VII [626], Syll. XIV [1030].
Fragaria vesca. J. Rosenholm!. *Comarum palustre*. J. Kannestederne ([12]/7 03!).

2784. **Septogloeum Thomasianum** (Sacc.) v. Höhnel, Syn: Marssonina Thom. (Sacc.) Magnus, Syll. III [768], All. VII [600] c. icon.
On leaves of *Evonymus europaeus* (hosp. nov.). F. Glorup; S. Klintebjærg ([29]/8 98 see R 99 a [270]).

Melanconieae—Phaeophragmiae.

Stilbospora.

The form-species of Stilbospora represent the conidial fructifications of species of Melanconidaceae see pag. 247.

2785. **Stilbospora thelebola** Sacc., Syll. III [771], All. VII [634].
Alnus glutinosa. F. Klingstrup; S. Sorø (Amnitzbøll).

2786. **Stilbospora macrosperma** Fries S. M. III [485], Syll. III [772], All. VII [637] c. icon.
Quercus robur. J. Nebsager (March 91 O. R.).

Coryneum.

Coryneum is very closely connected Stilbospora and represents like this formgenus the conidial stages of Melanconidaceae see pag. 247.

2787. **Coryneum microstictoides** Sacc. & Penzig, Syll. III [774], All. VII [651].
On fallen twigs. S. Soro (April 81 V. Sarauw).

2788. **Coryneum Notarisianum** Sacc., Syll. III [778], All. VII [645].
Betula alba. S. Rudersdal (Aug. 91 O. R.).

2789. **Coryneum umbonatum** Fries S. M. III [474], Syll. III [777], All. VII [645].
Carpinus betulus. L. Stensgaard.

2790. **Coryneum disciforme** Fries S. M. III [474], Syll. III [778], All.

VII [643], Syn: Tubercularia hirsuta Schum. no 1378, Fl. D. tab. 2337 fig. 1 see R 85 g [149].

Quercus robur. F. Skaarup. *Quercus cerris.* S. Helene Kilde.

2791. **Coryneum pulvinatum** Fries S. M. III [474], Syll. III [777], All. VII [639] c. icon.

Tilia europaea. S. Forsthaven ($^{7}/_{5}$ 94).

2792. **Coryneum microstictum** Berk. & Br., Syll. III [775], All. VII [640].

On twigs of *Rosa canina.* S. Humlebæk (March 03 O. R.).

2793. **Coryneum corni albae** (Roum.) Sacc., Syll. III [774], All. VII [647].

Cornus alba. S. Landbohøjskolens Have.

Scolecosporium.

2794. **Scolecosporium fagi** Libert, Syll. III [782], All. VII [662].

Very common on twigs of *Fagus silvatica,* February—May, often associated with and surely corresponding to Massaria macrospora.

Asterosporium.

2795. **Asterosporium Hoffmanni** Fries S. M. III [484], Syll. III [782], All. VII [663], Syn: Stilbospora asterosperma Hoffm., Schum. no 1357.

Common on twigs of *Fagus silvatica,* recorded from J., F., S. etc.

Monochaetia.

2796. **Monochaetia juniperi** (Rostrup) Sacc., Syll. XVIII [485], All. VII [670], Syn: Pestalozzia jun. R 95 a [211], Syll. XIV [1029].

Acervuli epiphylli, gregarii, atri; conidia fusoidea, 5-septata, loculis omnibus fuscis, 21—22 × 7—8 μ superae rostello obliquo basi longe stipello.

Juniperus communis. F. Hofmansgave (Hofman-Bang); L. Grænge ($^{6}/_{8}$ 80).

2797. **Monochaetia coryli** (Rostrup) Sacc., Syll. XVIII [485], All. VII [669], Syn: Pestalozzia cor. R 95 a [211] & 02 a [589], Syll. XIV [1027], see tab. VIII fig. 103.

Maculae epiphyllae, irregulares, brunneae, numerosae; acervuli atri, plani; conidia fusoidea, 4-septata, loculis 3 interioribus fuscis, 23—25 μ × 6—7 μ, rostello apicali curvato, 11—13 μ longo.

On living leaves of *Corylus avellana.* S. Petersværft ($^{9}/_{9}$ 93).

2798. **Monochaetia berberidis** spec. nov., see tab. VIII fig. 104.

Maculis epiphyllis, orbicularibus, aridis, brunneo-marginatis; acer-

vulis sparsis, epiphyllis, atris, subcutaneis, demum per epidermidem erumpentibus, 120—165 μ diam. Conidiis fusoideis, curvulis, 4-septatis, non constrictis, 20—27 μ × 6—9 μ, loculis internis fuscis, loculis terminalibus minutis, hyalinis, seta una apicali 10 μ longa, hyalina, curvata ornatis; pedicellis 20 μ longis, continuis, hyalinis.

On living leaves of *Berberis buxifolia*. J. Gaardbogaard (Dec. 97 Jørg. Larsen).

2799. **Monochaetia compta** Sacc., Syll. III [798], All. VII [672], Syn: Pestalozzia compta Sacc., R 02 a [589].

On leaves of *Rosa centifolia*. S. Fredensborg; Falst. Stubbekøbing ($^{20}/_{8}$ 83 Olavia Rostrup).

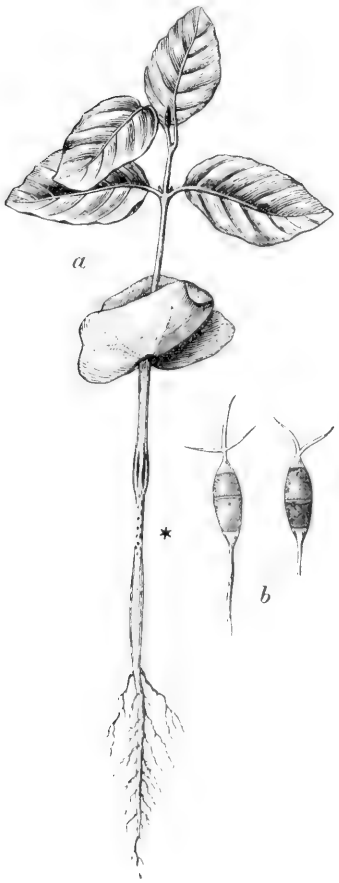


Fig. 35. Pestalozzia Hartigii
a. on seedlings of Fagus silvatica.
b. 2 conidia $\frac{500}{1}$. From R 02 a.

Pestalozzia.

2800. **Pestalozzia funerea** Desm., Syll. III [791], All. VII [681] c. icon.

A true parasite, attacking living leaves and twigs of Cupressineae etc., see R 95 a [210], 02 a [589]. *Thuja gigantea*. L. Søllested. *Thuja plicata*. J. Linaa Vesterskov; S. Botanisk Have, Gunderslevholm. *Thuja occidentalis*. S. Fredensborg. *Biota orientalis*. J. Skive!; F. Hofmansgave. *Cryptomeria japonica*. S. Landbohøjskolens Have. *Retinospora plumosa*. F. Hofmansgave. *Chamaecyparis squar rosa*. F. Hofmansgave; S. Landbohøjskolens Have. *Chamaecyparis Lawsoniana*. F. Hofmansgave: Falst. Hanenov. *Juniperus communis*. Møens Klint. *Juniperus squamata*. S. Charlottenlund. *Ginkgo biloba*. F. Glorup!.

2801. **Pestalozzia Hartigii** Tubeuf, Syll. X [490], All. VII [679], R 90 a [229] c. icon., 93 a [114], 95 a [211], 99 k, 02 a [588] c. icon., Lagerberg 11 c. icon.

A true parasite, attacking as well Coniferae as deciduous trees in the nurseries; quite common, recorded on *Abies alba*, *Picea excelsa* & *alba*, *Pinus montana*, *Fagus silvatica*.

2802. **Pestalozzia Guepini** Desm., Syll. III [794], All. VII [680], R 92 j [67] c. icon., 95 a [211], R 02 a [589].

Cattleya triana. S. Rudersdal. *Camellia japonica*. J. Nykøbing (P. Larsen), Skive!; S. Gunderslevholm (K. Karstensen).

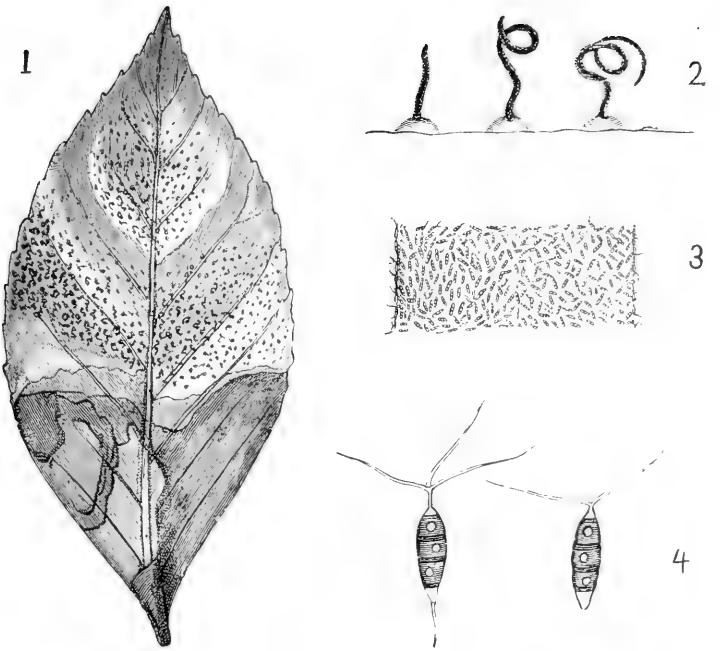


Fig. 36. Pestalozzia Guepini.
1. A leaf of Camellia infected. 2. Cirrhi of the same leaf $^{5}/_{1}$. 3. Part of the same cirrhi $\frac{100}{1}$. 4. 2 conidia $\frac{500}{1}$. From R 02 a.

2803. **Pestalozzia gongrogena** Temme, Syll. X [489], All. VII [706], R 02 a [589].

Salix cinerea. L. Hardenberg. *Salix viminalis*. L. Saxkøbing.

2804. **Pestalozzia maculicola** Rostrup 95 a [211], 02 a [589], see tab. VIII fig. 102.

Maculae orbiculares, diam. 3—4 mm albidae, amphigenae, lineo fusco cinctae; acervuli minutissimi, nigri; conidia oblongo-fusoidea, 3-septatis, loculis 2 interioribus fuscis, 16—20 × 6—7 μ vertice cilii tribus ornata.

On living leaves of *Ulmus montana*. J. Silkeborg Papirfabrik ($^{17}/_{6}$ 93); S. Lyngby Landboskole ($^{21}/_{8}$ 93).

2805. **Pestalozzia truncata** Lév., Syll. III [794], All. VII [676].

Sorbus aucuparia. S. Eskemosegaard Skov (June 03 O. R.).

Toxosporium.

2806. **Toxosporium camptospermum** (Peck)!, Syn: Pestalozzia

camp. Peck 39 Report (1886), Syll. X [495], Coryneum bicorne Rostrup 99 a [271], 02 a [597], 05 d, Toxosporium abietinum Vuill., Syll. XIV [1030], All. VII [708].

Acervulis amphigenis, sparsis, atris; conidiis crasse fusoideis, arcuatis, bicornutis, 20—24 μ × 6—8 μ, 3—5-septatis, loculis binis interioribus fuscis, loculis exterioribus hyalinis. R.

Found in company with Mycosphaerella abietis on dead leaves of *Abies alba*. F. Glorup (Dec. 1898 A. Bruun); S. Ruderhegn, Geelskov.

Melanconieae—Dictyosporae.

Steganosporium.

The form-species of Steganosporium correspond to the species of Massaria see pag. 230.

2807. **Steganosporium muricatum** Bon., Syll. III [806], All. VII [716] c. icon., Syn: Hendersonia polycystis Berk. & Br., Syll. III [441], All. VIII [196], Myxocyclus confluens Riess.

Alnus glutinosa. S. Sorø Filosofgang ($^{9}/_{4}$ 82 V. Sarauw).

2808. **Steganosporium compactum** Sacc., Syll. III [804], All. VII [715] c. icon.

Ulmus montana. S. Gl. Carlsberg. October.

2809. **Steganosporium piriforme** (Fries) Cda., Syll. III [803], All. VII [712] c. icon., Syn: Stilbospora pyriformis Hoffm., Fries S. M. III [485], Schum. no 1358.

Acer pseudoplatanus. F. Brendeskov (H. Sehested); S. Gammelmosen (O. R.), Forsthaven, København ($^{22}/_{6}$ 89 V. Sarauw).

Melanconieae—Scolecosporae.

Cylindrosporium.

Some forms of Cylindrosporium are known to represent the conidial fructification of Discomycetes for instance corresponds:

Cylindrosporium padi to Pseudopeziza Jaapii Rehm (see Jaap 10 b).
— acicola to Belonium pineti (Jaap Exs. no 105).

2810. **Cylindrosporium filipendulae** Thümen, Syll. III [738], All. VII [732].

Filipendula ulmaria. J. Vejle ($^{30}/_{7}$ 93).

2811. **Cylindrosporium padi** (Lasch) Karsten, Syll. III [738] & X [352].
Prunus domestica. J. Kvissel (V. S.); S. Ny Holte (Aug. 91).

2812. **Cylindrosporium pastinacae** (West.)!, Syn: Septoria past. West., Syll. III [528], All. VI [823], R 02 a [576], Phyllachora past. Rostrup 02 a [511], Cylindrosporium pimpinellae Massal., var pastinacae Sacc., Syll. XI [583], Pastinakkens Skorpesvamp (R 02 a).

Very closely connected with and possibly quite identical with the following form.

Pastinaca sativa. F. Nyborg: S. Holte, Lyngby!; Am.; Falst. Stubbekøbing.

2813. **Cylindrosporium heraclei** (Fries) v. Höhnel 06 a [677], Syn: Dothidea her. Fries S. M. II [556], Phyllachora her. (Fries) Fuckel, Syll. II [600], Wt. II [901], Cylindrosporium her. Ell. & Ev., Syll. X [502], Cylindrosporium hamatum Bres., Syll. XI [582], All. VII [726], Septoria heraclei (Lib.) Desm., Syll. III [528], All. VI [792], Ouds. 73 [314] c. icon.

Acervulis subcutaneis, demum erumpentibus, convexulis, hypophyllis; conidiis cylindraceis, curvulis, utrinque acutiusculis, 40—55 μ × 3—4 μ, 1—3-septatis, non constrictis, hyalinis, in cirrhis roseis expulsis.

In living leaves of *Heracleum sphondylium,* July—October, quite common. J. Stenderup Strand; F. N. Aaby: S. Skodsborg, Gentofte etc.

Libertella.

2814. **Libertella faginea** Desm., Syll. III [744], All. VII [735] c. icon.

It is the conidial fructification of Quaternaria Persoonii (see Tul. Carp. II [105]).

On trunks of *Fagus silvatica,* quite common.

2815. **Libertella parva** Fautr. & Lamb., Syll. XI [585], All. VII [734].
Carpinus betulus. J. Viborg ([11]/6 06!).

Cryptosporium.

Cryptosporium	Neesii	corresp. to	Cryptospora suffusa (see Tul. Carp.).
—	— f. betulinum	—	— betulae.
—	quercus	—	— quercus (see Berlese 00).
—	amygdalinum	—	— aurea.
—	ribis	—	Didymosphaeria circinata (Fuckel).
—	equiseti	—	Phragmonaevia laetissima (v. Höhnel 06 b [1264]).

2816. **Cryptosporium noveboracense** Berk. & Cooke, Syll. III [742].
On the trunk of *Abies alba*. B. Almindingen ($^{5}/_{9}$ 98, new for Europe, see R 99 a [271] & 06 dd).

2817. **Cryptosporium hysterioides** Cda., Syll. III [742], All. VII [748] c. icon.
Salix caprea. F. Klingstrup. *Salix viminalis*. F. Tiselholt.

2818. **Cryptosporium Neesii** Corda, Syll. III [740], All. VII [742] c. icon.
Alnus glutinosa, common.

2819. **Cryptosporium turgidum** Berk. & Br., Syn: Stagonospora turg. Sacc., Syll. III [447], All. VI [974], Cryptosporium fraxini R 04 f [38].
Acervulis erumpentibus, pulvinatis, fuscis, gregariis, c. 0,5 mm diam.; conidiis fusoideo-falcatis, hyalinis, utrinque acutiusculis, medio septatis, 25—30 µ × 4—5 µ, e sterigmatibus continuis, simplicibus, 32 µ · 3 µ oriuntibus.
On twigs of *Fraxinus excelsior*. S. Frerslev Hegn ($^{23}/_{10}$ 87).

Hyphomycetes.

Mucedinaceae—Hyalosporae.

Chromosporium.

2820. **Chromosporium aureum** (Cda.) Sacc., Syll. IV [7], Ldau VIII [12].
On the foot of a cassowary. S. København (Febr. 03 Boas).

Microstroma.

2821. **Microstroma juglandis** (Bereng.) Sacc., Syll. IV [9], Ldau VIII [18] c. icon.
On living leaves of *Juglans regia*. J. Vejle. September.

Oospora.

2822. **Oospora porriginis** (Mont. & Berk.) Sacc., Syll. IV [15], Ldau VIII [36].
Into the skin of men (see Marcus 62, Borch 65, O. R., Fries 68).

2823. **Oospora equina** (Desm.) Sacc., Syll. IV [22].
On hoofs of *Equus caballus*. S. Landbohøjskolen (see R 94 f [44]).

2824. **Oospora casei** (Fries)!, Syn: Sporendonema casei Fries S.

M. III [435], Syn: Oospora crustacea (Bull.) Sacc., Syll. IV [20], Ldau VIII [42].
On cheese. S. København. On dead caterpillars of *Melolontha* ([29]/9 93).

2825. **Oospora cyanescens** (Kalchbrenner) Sacc., Syll. IV [25], Ldau VIII [39].
On wood. S. Ermelunden (October 90. O. R.).

2826. **Oospora nivea** (Fuckel) Sacc., Syll. IV [16], Ldau VIII [29].
On sclerotia on *Medicago*. S. København. On owls disgorging. J. Fannerupgaard ([7]/7 95 see R 97 m [49]).

2827. **Oospora lactis** (Fresenius) Sacc., Syll. IV [15], Ldau VIII [32], Syn: Oidium lactis Fres., Geotrichum mycoderma Sacc., Syll. IV [40], Mælkeskimmel (E. W. 81 [432]), Lit: Grawitz 81.
Very common upon cheese, into milk etc.

2828. **Oospora microsperma** (Berk. & Br.) Sacc., Syll. IV [22], Ldau VIII [46].
On stumps of *Picea excelsa*. J. Randers.

2829. **Oospora compacta** (Cooke & Ellis) Sacc. & Vogl., Syll. IV [13].
On branches of *Fagus silvatica*. S. Billesborg Skov (Exc. [7]/10 94).

2830. **Oospora verbasci** Rostrup 97 m [49], Syll. XIV [1037], Ldau VIII [38].
Conidiis hyalinis, irregularibus, oblongo-valsoideis 6—8 μ × 2—4 μ vel globulosis 3—5 μ diam., sporodochiis brevis insidentibus.
In the flowers of *Verbascum speciosum*. S. Thorvaldsensvej ([7]/7 95 Joh. Lge).

Monilia.

Many form-species of Monilia correspond to species of Sclerotinia (subgenus Stromatinia) see pag. 108.

2831. **Monilia candida** Bonorden, Syll. IV [32], Ldau VIII [54] c. icon.
Common on old wood etc., also into the air (see O. R. 08).

2832. **Monilia Koningi** Oudemans, Syll. XVIII [502], Ldau VIII [59].
Into the air near København (O. R. 08).

2833. **Monilia fructigena** Fries S. M. III [430], Syll. IV [34], Ldau VIII [57], Frugtskimmel (R 84 g), Kærnefrugtskimmel, Lit: R 90 l [578], 92 t, 95 h, 02 a [555] c. icon., 06 h.
Very common, especially in the years past 1891 (see R 93 i and Sorauer 99). *Pirus malus, Pirus communis, Prunus domestica* common. *Cydonia japonica*. S. Gundsømagle (Mathiesen), Tystofte (! see Lind 07 b).

2834. **Monilia cinerea** Bon., Syll. IV [34], Ldau VIII [52], Stenfrugtskimmel, R 02 a [556], 06 i, Lind & Ravn 10 [36] c. icon.

In the fruit, flowers, leaves and twigs of *Prunus avium, acida, domestica, triloba, persica, armeniaca,* common. *Amygdalus nana.* J. Viborg (Gad); S. Basnæs.

2835. **Monilia crataegi** Diedicke, Syll. XVIII [502], Ldau IX [721].

On leaves of *Crataegus monogyna.* S. Usserød!, Lyngby (! [12/6] 08 Exs. Kab. & Bub. no 582), Amager and more other places.

Fusidium.

2836. **Fusidium melampyri** Rostrup 97 [49], Syll. XIV [1040], Ldau VIII [64].

Albidum, tenuiter effusum, hypophyllum; conidia cylindrico-fusoidea, hyalina, longit. 13—18 μ crassit. 3—5 μ.

On the lower surface of living leaves of *Melampyrum silvaticum.* J. Fannerupgaard (July 95). *Melampyrum cristatum.* F. Ringe!.

Cylindrium.

2837. **Cylindrium candidum** Bonorden, Syll. IV [36], Ldau VIII [74].

On fallen leaves of *Salix* (June 01).

2838. **Cylindrium griseum** Bonorden, Syll. IV [37], Ldau VIII [71].

On fallen leaves of *Quercus robur.* J. Stensbæk!; S. Jonstrup Vang (O. R.).

2839. **Cylindrium flavovirens** (Fries)!, Syn: Fusisporium flav. Fries S. M. III [446], Cylindrium aeruginosum (Link) Ldau VIII [72] c. icon., Syll. IV [37].

On fallen leaves of *Quercus robur.* S. Ruderhegn. August.

Geotrichum.

2840. **Geotrichum candidum** Fries S. M. III [420], Syll. IV [39], Ldau VIII [76].

On wood. S. Tokkekøb Hegn (May 91 O. R.).

Oedocephalum.

2841. **Oedocephalum glomerulosum** (Fries) Sacc., Syll. IV [47], Ldau VIII [93] c. icon., Syn: Botrytis glom. Fries S. M. III [395].

On twigs of *Picea excelsa.* S. Gribskov ([22/10] 05 F. & W. 09 [316]), København (O. R.).

Cephalosporium.

2842. **Cephalosporium Bonordenii** Sacc., Syll. IV [57], Ldau VIII [105].

In a solution of potassium-jodide. S. Valby ([10/6] 90 A. Klocker).

Papulospora.

2843. **Papulospora sepedonioides** Preuss, Syll. IV [59].
On conserves. J. Hobro. On acorn. L. Hardenberg (April 97).

Trichoderma.

2844. **Trichoderma cinnabarinum** Wallr., Syll. IV [61], Ldau VIII [113].
On old wall-paper. S. København. February.

2845. **Trichoderma flavum** Fries S. M. III [215], Syll. IV [61], Ldau VIII [113].
On fruit of *Trapa natans*. S. København (Dec. 92).

2846. **Trichoderma viride** Fries S. M. III [215], Syll. IV [59], Schum. no 1586, Fl. D. tab. 1495, Syn: Trich. lignorum (Tode) Harz, Syll. IV [59], Ldau VIII [110] c. icon., Grøn Haarskind (H. 37 [893]), Lit: R 95 e.
It is supposed to be the conidial fructification of Hypocrea rufa (see Tulasne and Brefeld).
Very common on old wood of *Alnus glutinosa*, also recorded on *Picea excelsa, Abies alba, Quercus, Fagus, Carpinus*.

Botryosporium.

2847. **Botryosporium pyramidale** (Bon.) Costantin, Ldau VIII [117], Syn: Botrytis pyr. Syll. IV [135].
On decayed stems of *Solanum*. S. Fredriksberg (O. R.). *Urtica dioeca*. S. Ruderhegn (Sept. 90 O. R.), Ermelunden.

Citromyces.

2848. **Citromyces tuberifer** O. Rostrup 08 [39] c. icon.
Found into the air S. near Ørholm (1903 O. R.), København; also into samples of earth from J. Vraa Hede (O. R.).

Amblyostegium.

2849. **Amblyostegium botrytis** Fresen., Syll. IV [77], Ldau VIII [179], Syn: Amb. bicollum Cost., Syll. X [527], R 88 c, Hypomyces tuberosus Tul., Syll. II [478], Sclerotinia mycetophila Sacc., Syll. X [6], Lit: Tul. Carp. III [58], v. Höhnel 03.
On moist paper. S. København (October 87 Børgesen).

Acremonium.

2850. **Acremonium Bonordenii** Sacc., Syll. IV [91], Ldau VIII [189].
On tubers of *Solanum tuberosum*. S. Storeklint (Jan. 97 Th. Leth).

Sporotrichum.

2851. **Sporotrichum polysporum** Fries S. M. III [424], Syll. IV [98], Ldau VIII [190].

On hoofs of *Equus caballus* and bones of *Rhea americana*. S. Landbohøjskolen (Boas). On dead roots of *Armoracia*. S. København.

2852. **Sporotrichum lanatum** Wallr., Syll. IV [102], Ldau VIII [194].

On feathers of *Corvus cornix*. F. Lundsgaard Skov ($^{6}/_{8}$ 95).

2853. **Sporotrichum mycophilum** Fries S. M. III [422], Syll. IV [107], Ldau VIII [210].

On *Polyporus*. F. Glorup. July.

2854. **Sporotrichum roseum** Fries S. M. III [422], Syll. IV [106] Ldau VIII [211] c. icon.

On stems of *Lilium auratum*. S. København ($^{5}/_{2}$ 97 Th. Jensen).

2855. **Sporotrichum flavissimum** Fries S. M. III [423], Syll. IV [102], Ldau VIII [197] c. icon.

On timber of *Quercus robur*. S. Nørrebro (May 96 Weismann).

2856. **Sporotrichum geochroum** Fries S. M. III [416], Syll. IV [106], Ldau VIII [209].

On old timber. S. København. August (Weismann).

Sepedonium.

2857. **Sepedonium chrysospermum** Fries S. M. III [438], Syll. IV [146], Ldau VIII [219] c. icon., Bref. Untersuch. X [184].

Common on *Boletus, Lycoperdon* etc.

Ovularia.

2858. **Ovularia pulchella** (Ces.) Sacc., Syll. IV [145], Ldau VIII [235].

Hordeum sativum. S. Thorsbro ($^{31}/_{7}$ 96).

2859. **Ovularia destructiva** (Plowr. & Phil.) Massee, Ldau VIII [235], Vgr. 00 [35], Syn: Ramularia dest. P. & P., Syll. IV [198], Ovularia Sommeri (Eichler) Sacc., Syll. XI [599].

Very common on leaves and twigs of *Myrica gale* all the year round. Found for the first time J. Thorsager ($^{26}/_{7}$ 74).

2860. **Ovularia obliqua** (Cooke) Oudemans, Syll. IV [145], Ldau VIII [237].

Very common on living leaves of *Rumex crispus, maritimus, domesticus, hydrolapathum, aquaticus* × *hydrolapathum, obtusifolius, sanguineus*. May—Sept.

2861. **Ovularia rigidula** Delacroix, Syll. X [541], Ldau VIII [239].

Polygonum aviculare. S. Hjørring (! $^{18}/_{7}$ 01).

2862. **Ovularia decipiens** Saccardo, Syll. IV [139], Ldau VIII [240].
Ranunculus lanuginosus. J. Marselisborg!. *Ranunculus acer.* S. Lyngby. *Ranunculus repens.* J. Skive ([18]/6 02!), Viborg (! Exs. Kab. & Bub. no 433).

2863. **Ovularia aplospora** (Speg.) Magnus, Syll. IV [140], Ldau VIII [242] c. icon., Syn: Ovularia Schroeteri (Kühn) Sacc., Syll. IV [140], Ldau VIII [244], Ovularia pusilla Sacc., Syll. IV [140].
On living leaves of *Alchimilla vulgaris,* very common, June—Sept.

2864. **Ovularia Schwarziana** Magnus, Syll. XVI [1035], Ldau VIII [245], Vikkeskimmel (R 92 b [335], 93 d [139]).
Vicia villosa, quite common, recorded from J. & S.

2865. **Ovularia viciae** (Frank) Sacc., Syll. X [542], Ldau VIII [245].
Vicia tenuifolia. S. København ([1]/10 84). *Vicia cassubica.* S. Fredriksværk.

2866. **Ovularia deusta** (Fuckel) Sacc., Syll. IV [140], Ldau VIII [248].
Lathyrus silvester. S. Lyngby (M. L. M.). *Lathyrus pratensis.* J. Uggerby!, Skive!. *Lathyrus tuberosus* (hosp. nov.). S. Bidstrupgaard (Hornemann).

2867. **Ovularia sphaeroidea** Sacc., Syll. IV [140], Ldau VIII [247], Syn: Ramularia sphaer. (Sacc.) Rostrup 93 d [139], 02 a [602].
Lotus corniculatus. J. Krabbesholm! and many other places. *Lotus uliginosus.* J. Viborg!; F. Brændeskov ([3]/8 85).

2868. **Ovularia primulana** Karsten, Syll. IV [143], Ldau VIII [249].
Primula acaulis. J. Kaas!. *Primula elatior* very common. *Primula officinalis.* J. Flade!, Floutrup!, Vilhelmsborg; S. Bidstrup!.

2869. **Ovularia cynoglossi** (Liro)!, Syn: Ramularia cyn. Liro, Syll. XVIII [552], Ldau VIII [487], Ovularia asperifolii Sacc., var cynoglossi Sacc., Syll. IV [142], Ldau VIII [250].
Cynoglossum officinale. J. Tversted!, Sæby!; S. Saltbæk Vig, Fakse ([12]/8 87).

2870. **Ovularia carneola** Sacc., Syll. IV [143], Ldau VIII [255].
Scrophularia vernalis. S. Roskilde.

2871. **Ovularia duplex** Sacc., Syll. IV [254], Ldau VIII [254].
On living leaves of *Scrophularia nodosa,* very common.

2872. **Ovularia veronicae** (Fuckel) Sacc., Syll. IV [143], Ldau VIII [253].
Veronica hederifolia. S. Tystofte!. *Veronica Tournefortii.* F. Skaarup. *Veronica arvensis.* F. Skaarup ([23]/5 82). *Veronica chamaedrys.* Læsø!; J. Skive!, Horsens!, Greisdalen; F. Dalum (Jak. Lge). *Veronica montana.* J. Viborg!. *Veronica teucrium.* J. Horsens!.

2873. **Ovularia lamii** (Fuckel) Sacc., Syll. IV [144], Ldau VIII [252].
Lamium purpureum. F. Skaarup ([1]/2 74). *Lamium amplexicaule* × *purpureum.* J. Hobro (F K. R.). *Lamium album.* J. Viborg (! see Ldau IX [743]); F. Dalum (Jak. Lge).

2874. **Ovularia Vossiana** (Thümen) Sacc., Syll. IV [141], Ldau VIII [256].

Carduus crispus. J. Skive!; F. Egeskov ([20]/8 97!).

2875. **Ovularia gnaphalii** Sydow, Syll. XVI [1035], Ldau VIII [257].

Gnaphalium silvaticum. J. Tolne!; F. Bjørnemose ([2]/9 82). *Gnaphalium uliginosum.* J. Grinderslev!.

2876. **Ovularia virgaureae** (Thümen) Sacc., Syll. IV [142], Ldau VIII [258].

Solidago virgaurea. J. Fredrikshavn; B. Paradisbakkerne (R 06 dd).

2877. **Ovularia doronici** Saccardo, Syll. IV [141], Ldau VIII [256].

Doronicum pardalianches. S. Gurre (O. R.), Landbohøjskolens Have, Ledreborg ([3]/6 97).

Ovulariella.

2878. **Ovulariella nymphaearum** (All.) Kab. & Bub. Exs. no 585, Syn: Gloeosporium nymph. All., Syll. XIV [1004], Ovularia nymph. All. VII [510], Ldau VIII [241], Ascochyta nymphaeae Passer., All. VI [672], Syll. III [397].

On leaves of *Nymphaea odorata, lotus, Bouchiana, Ortgiesiana.* S. Botanisk Have ([9]/9 97 see R 99 a [270], 02 a [583]).

Monosporium.

2879. **Monosporium spinosum** Bonorden, Syll. IV [113], Ldau VIII [261].

Parasitical on *Ustilago hordei.* F. Skaarup ([10]/9 81).

Botrytis.

2880. **Botrytis terrestris** (Fries)!, Syn: Hyphelia ter. Fries S. M. III [213], Botr. epigaea Link var. rosea Sacc., Syll. IV [136], Ldau VIII [300], Trichoderma laeve Schum. no 1587, Jord-Uldskind (H. 37 [892]).

Upon the ground. S. (Schum.).

2881. **Botrytis tenella** Sacc., Syll. IV [119], Ldau VIII [277] c. icon.

Is the conidial form of fructification of Cordyceps melolonthae.

On insects. *Chrysomela.* J. Nebsager (O. R.). *Forficula.* J. Randers (Nic. Hartz). *Rhizophagus* and *Hylesina micans.* S. København (Boas). *Melolontha vulgaris.* J. Vorgod; S. København (see Boas 94, R 06 a [104]). *Melolontha hippocastanum.* J. Allerup (F. K. R.). *Bombyx pudibunda.* J. Vorgaard Storskov (R 02 b [310]). *Bombyx monacha.* S. Sonnerup Plantage (Boas). *Panolis piniperda* (Levin).

2882. **Botrytis muscae** Rostrup 93 b [94], Syll. XI [597], Ldau VIII [304].

Mycelio hyalino, septato, perpendiculariter ramoso; conidiis oblongis.
On yellowish flies. L. Stensgaard (Aug. 84).

2883. **Botrytis Bassiana** Bals., Syll. IV [119], Ldau VIII [275] c. icon.
Represents the conidial fructification of Melanospora parasitica (see Tulasne).
On caterpillars of *Pissodes pini*. J. Buderupholm (Octob. 84).

2884. **Botrytis galanthina** (Berk. & Br.) Sacc., Syll. IV [136], Ldau VIII [294], R 96 o [120], 02 a [545], 05 m.
To be sure a biological form of Botrytis cinerea.
Galanthus nivalis. S. Søholm (Febr. 87 Borries see R 88 a [387]), Strandvejen (Magius).

2885. **Botrytis parasitica** Cavara, Syll. X [536], Ldau VIII [292], Klebahn 04 c. icon.
Its sclerotium is called Sclerotium tulipae Libert.
On bulbs of *Tulipa* cult. J. Horsens (1901!); S. København (Th. Jensen & Høegh-Hansen).

2886. **Botrytis cinerea** Fries S. M. III [396], Syll. IV [129], Ldau VIII [284], Schum. no 1597, Fl. D. tab. 2278 fig. 2, Syn: Botrytis aeruginosa Schum. no 1598, Fl. D. tab. 2278 fig. 3, Syll. IV [127], Ldau VIII [302], Botrytis acinorum Pers., Mucor botrytis Fl. D. tab. 777 fig. 1, Botrytis Douglasii Tubeuf, Syll. X [536] & XIV [1053], Askegraa Druenaal (H. 37 [898]), Skimmel-Bægersvamp (R 93 d [108] c. icon., 02 a [544]), Drueskimmel (R 84 g, 86 j, 93 h, 96 k, 02 u, 03 j, E. W. 81 [401]), Lit: R 71 [44], 92 j [51] c. icon., 96 o [120], 04 a [210], 06 aa, Wulff 08 b.
Its sclerotium is called Sclerotium durum Persoon, Schum. no 1379 Haard Beensvamp (H. 37 [850]). It is necessary to repeat here (see also pag. 109) that the correspondence between Botrytis cinerea and Sclerotinia Fuckeliana is never demonstrated by cultural experiments and only founded upon a mistake.
It is a very noxious parasite on leaves and stems of many different species of cultivated plants for instance: *Picea excelsa* (R 98 h), *Allium* (R 02 j), *Convallaria majalis* (R 98 e), *Beta* in the pits (F. K. R. 10 b), *Pelargonium* cult. (R 98 i), *Begonia* (R 98 l), *Ribes petraeum, niveum, rubrum, grossularia, Matthiola annua, Vitis vinifera, Cyclamen, Primula cult.* etc.

2887. **Botrytis paeoniae** Oudemans, Syll. XIV [1052], Ldau VIII [295], R 05 q.
On stems of *Paeonia officinalis & arborea*, very common in the gardens.

2888. **Botrytis fusca** (Cooke) Sacc., Syll. IV [133].
Eucalyptus sp. cult. S. Botanisk Have ([15]/12 98. New for Europe).

2889. **Botrytis capsularum** Bres. & Vgr., Vgr. 02 [116] & 03 [81] c. icon.
In the capsules of *Veronica serpyllifolia*. S. Fredriksværk ([30]/5 89).

2890. **Botrytis carnea** Fries S. M. III [405], Syll. IV [119], Ldau VIII [278], Fischer IV [212], Schum. no 1599, Fl. D. tab. 2278 fig. 1.

v. Höhnel supposes it to be the conidial fructification of Tomentella fusca (07 a).

On decaying wood of *Betula alba*. S. (Schum.).

Verticillium.

2891. **Verticillium aphidis** Bäumler 87 [94], Syll. X [546], Ldau VIII [321], Syn: Vert. aphidis Rostrup 93 b [99], Syll. XI [600], Ldau VIII [323], R 00 k, 06 a [104], Lagerheim 99 b.

On *Aphis* spp. S. København, Vanløse (Trier).

2892. **Verticillium capitatum** Fries S. M. III [399], Syll. IV [152], Ldau VIII [321].

S. Boserup Skov (Oct. 90 O. R.).

2893. **Verticillium crassum** Bon., Syll. IV [158], Ldau VIII [329].

On wood. S. Bognæs ([12]/6 O. R.).

2894. **Verticillium quaternellum** Grove, Syll. IV [154].

On *Agaricaceae*. S. Fredriksdal (O. R.).

2895. **Verticillium epimyces** Berkeley, Syll. IV [154], Ldau VIII [316].

On *Sclerotium clavus*. S. Landbohøjskolen. November.

2896. **Verticillium rufum** (Schwabe) Rabenhorst, Syll. IV [156].

On roots of *Beta*. S. Vejenbrød (R. Larsen). On roots. F. Hvidkilde (Rosenørn-Lehn).

2897. **Verticillium lateritium** Berkeley, Syll. IV [156], Ldau VIII [324].

On paper. S. København (O. R.). On cultures of *Isaria densa*. S. København (Boas). On roots of *Dahlia*. S. Lyngby (M. L. M.). On stems of *Daucus carota*. J. Horsens (Bøgh). *Astragalus glycyphyllus*. Fænø (A. Schultz). *Secale cereale*. S. Hornbæk.

2898. **Verticillium candidulum** Sacc., Syll. IV [150], Ldau VIII [318].

On dead stems of *Solanum lycopersicum*. S. Landsgrav. On living leaves of *Primula officinalis*. J. Blaakilde.

Nematogonium.

2899. **Nematogonium aurantiacum** Desm., Syll. IV [170], Ldau VIII [398] c. icon.

On wood of *Fagus, Fraxinus, Pirus*. S. & L.

Didymopsis.

2900. **Didymopsis helvellae** (Cda.) Sacc., Syll. IV [182], Ldau VIII [363] c. icon.

Acetabula vulgaris. Moen Vitmundsnakke ([16]/8 88).

Trichothecium.

2901. **Trichothecium roseum** Fries S. M. III [427], Syll. IV [181], Ldau VIII [365] c. icon., Syn: Trichoderma carnea Schum. no 1588, Rosenrød Haargjemme (H. 37 [900]).

Very common on different parts of plants, also on hoofs of *Equus caballus* (see R 94 f [44]).

2902. **Trichothecium cupulicolum** spec. nov.

Caespitulis late effusis, subvelutinis, crusta cinerea matricem obtegens. Hyphis sterilibus repentibus, septulatis, ramosis, cinereo-griseis; hyphis fertilibus erectis, c. 100 µ × 5 µ, septatis, simplicibus, sursum rotundatis vel 2—3 noduloso-denticulatis; conidiis concoloribus e denticulis oriundis, oblongis, cylindricis, rectis, utrinque obtusis, eguttulatis, didymis, ad septum non constrictis, 15—20 µ × 5 µ.

In cupulis dejectis *Fagi silvatici* (O. R.).

Mucedineae—Hyalodidymae.

Arthrobotrys.

2903. **Arthrobotrys superba** Cda., Syll. IV [181], Ldau VIII [369] c. icon.

On dung of mammals (Hansen 76 [340]). On sclerotia (O. R. 97 [257]).

2904. **Arthrobotrys oligospora** Fres., Syn: Art. superba var: oligospora Fres. Syll. IV [181], Ldau VIII [369].

Common on dung of *Equus* and *Lepus*, also parasitical in *Nematodes* (see Hansen 90 [129]).

Diplocladium.

2905. **Diplocladium minus** Bonorden, Syll. IV [176], Ldau VIII [374].

Its ascigerous stage is Hypomyces aurantius (see Tul. Carp. III [43]).

Polyporus spp. S. Humlebæk (O. R.), Tokkekøb Hegn (May 91 O. R.), Ermelunden (O. R.). *Lenzites betulina*. S. Geelskov.

Didymaria.

2906. **Didymaria Ungeri** Cda., Syll. IV [184], Ldau VIII [378] c. icon.

Common, Aug.—Sept., on living leaves of *Ranunculus acer, repens, lingua, sardous, lanuginosus*.

2907. **Didymaria linariae** Passerini, Syll. IV [550], Ldau VIII [380].

Linaria vulgaris. J. Fredrikshavn (1/7 07!).

Bostrychonema.

2908. **Bostrychonema alpestre** Cesati, Syll. IV [185], Ldau VIII [381] c. icon.

On living leaves of *Polygonum bistorta*. J. Rosenholm!; F. Odense!; S. Hæsede.

Mycogone.

2909. **Mycogone cervina** (Fries) Ditm., Syll. IV [183], Ldau VIII [386], Syn: Sepedonium cerv. Fries S. M. III [439].

Polyporus. S. Ruderhegn ([30]/9 88).

2910. **Mycogone pezizae** (Richon) Sacc., Syll. IV [183], Ldau VIII [383].

Helvella lacunosa. Møen Aborrebjerget ([11]/8 88).

2911. **Mycogone perniciosa** Magnus, Syll. XVI [1040], Ldau VIII [384].

On cultivated *Psalliota campestris* (see Borregaard 94, R 02 a [603]).

2912. **Mycogone rosea** (Fries) Link, Syll. IV [183], Ldau VIII [384], Syn: Sepedonium roseum Fries S. M. III [438], Hypomyces Linkii Tul., Wt. II [136].

Agaricaceae. S. Carlsberg (Elfving). *Helvella lacunosa*. B. Almindingen!.

Mucedinaceae—Hyalophragmiae.

Mastigosporium.

2913. **Mastigosporium album** Riess, Syll. IV [220], Ldau VIII [402] c. icon., Syn: Fusidium agrostidis R 81 a [91].

Is supposed to represent the conidial fructification of Dilophia graminis (see R 02 a [467]).

Very common on living leaves of many different species of Gramineae. Recorded on *Dactylis glomerata, Poa trivialis, Glyceria fluitans, Briza media, Molinia coerulea, Holcus, Avena elatior, Agrostis alba & vulgaris, Calamagrostis arundinacea, epigejos, lanceolata, Anthoxanthum odoratum, Alopecurus pratensis, nigricans, agrestis, castellantus, Phleum pratense*. April—October.

Septocylindrium.

2914. **Septocylindrium anemones** Delacroix, Syll. XI [607], Ldau VIII [406].

Pulsatilla pratensis (hosp. nov.). J. Uggerby Aa (! [12]/7 01).

2915. **Septocylindrium olivascens** Thümen, Syll. IV [225] & X [567].

On living and dead leaves of *Hippophaës rhamnoides*. J. Frederikshavn (Oct. 07 V. S.), Tolne (V. S.), Løgstør (! Exs. Kab. & Bub. no 591).

Dactylium.

2916. **Dactylium dendroides** Fries S. M. III [414], Syll. IV [189], Ldau VIII [417] c. icon., Syn: Dact. agaricinum Sacc., Syll. IV [189].

It is the conidial form of Hypomyces rosellus (see Tul. Carp. III & Plowr. 82).

On decaying *Agaricaceae*. S. Boserup Skov (Oct. 97 O. R.).

Cercosporella.

2917. **Cercosporella phyteumatis** (Frank) Sacc., Syll. X [565], Ldau VIII [427], Syn: Cercospora phyt. Frank, Ramularia phyt. Sacc. & Wt., Syll. IV [211], Ldau VIII [511].

Very common on living leaves of *Phyteuma spicatum*. May—July.

2918. **Cercosporella pantoleuca** Sacc., Syll. IV [219], Ldau VIII [426] c. icon.

Plantago lanceolata. J. Bangsbo ([29]/7 06!), Tylstrup!.

2919. **Cercosporella centaurea** Sydow, Syll. XVI [1047], Ldau VIII [427].

Centaurea scabiosa. J. Vejle ([25]/8 01!).

2920. **Cercosporella virgaureae** (Thümen) Allescher, Ldau VIII [428], Syn: Cercospora virg. Thüm., Syll. IV [209].

Hyphis fertilibus 30—80 μ longis; conidiis hyalinis, 30—80 μ × 3—5 μ, 6-septatis.

Solidago virgaurea. J. Flade ([29]/7 06!); B. Paradisbakkerne.

Ramularia.

The complete life cycles of the numerous form-species of Ramularia are very unsatisfactory know; they often may represent secondary fruit-forms of Pyrenomycetes, especially of Mycosphaerella, viz:

Ramularia	rosea	corresp. to	Mycosph.	salicicola (see Jaap. Exsicc. no 79).
—	Tulasnei	—	—	fragariae (Tul. Carp. II [288]).
—	trifolii	—	—	carinthiaca (see Jaap 10 [8]).
—	lysimachiae	—	—	lysimachiae (v. Höhn. 05 [605]).
—	hieracii	—	—	hieracii (Jaap 08 [36]).
—	brunnea	—	—	tussilaginis (Wolf 12).
—	aequivoca	—	Stigmatea	ranunculi (Voglino 03).

2921. **Ramularia alismatis** Fautrey, Syll. X [563], Ldau VIII [434], Syn: Didymaria aquatica Starb., Syll. XIV [1058], R 99 a [273].

Common on living leaves of *Alisma plantago*.

2922. **Ramularia canadensis** Ell. & Ev., Syll. X [563], Ldau VIII [435].

Carex riparia (hosp. nov.). L. Stensgaard ([3]/9 98, new for Europe see R 99 a [273]).

2923. **Ramularia aromatica** (Sacc.) v. Höhnel, Ldau VIII [436], Syn: Septocylindrium arom. Sacc., Syll. IV [224], Ldau VIII [404].

Acorus calamus, common, recorded from many parts of the country.

2924. **Ramularia rosea** (Fuckel) Sacc., Syll. IV [199], Ldau VIII [437], R 02 a [601].

On living leaves of *Salix caprea*. J. Krabbesholm!, Gjesten.

2925. **Ramularia urticae** Cesati, Syll. IV [216], Ldau VIII [439].

Urtica dioeca, quite common, Sept.—Nov.

2926. **Ramularia rhei** Allescher, Syll. XIV [1063], Ldau VIII [443].

Common and very destructive upon the leaves of *Rheum* cult.

2927. **Ramularia pratensis** Sacc., Syll. IV [215], Ldau VIII [440] c. icon.

Rumex acetosa. Læsø!; J. Bannerslund (! 11/7 03).

2928. **Ramularia lychnicola** Cooke, Syll. IV [204], Ldau VIII [446].

Melandrium rubrum. J. Flade!, Krabbesholm Skov (29/5 01!). *Melandrium album*. J. Skive!.

2929. **Ramularia betae** Rostrup 99 a [272], 99 c [128], 99 d [45], 02 a [601] c. icon., Syll. XVI [1045], Ldau VIII [444], Bubak 04 b, Syn: Depazea betaecola R 78 & 81 a [92] (nom. nudum), Bedens Pletskimmel (R 03 c [154] & M. L. M. 09 [128]).

Maculis numerosis, amphigenis, subcircularibus, 4—6 mm diam., griseo-candidis, rufo-cinctis; hyphis fasciculatis; conidiis cylindraceis, continuis, 10—15 × 4—5 μ vel 1-septatis 15—25 × 5 μ.

Common on living leaves of all cultivated forms of *Beta*. July—October.

2930. **Ramularia calthae** (Cooke) Liro, Syll. XVIII [546], Ldau VIII [448], Syn: Cercospora calthae Cke., Syll. X [618], Cylindrosporium niveum B. & Br., Syll. III [737], All. VII [724].

On living leaves of *Caltha palustris*, common. June—July.

2931. **Ramularia aequivoca** (Ces.) Sacc., Syll. IV [201], Ldau VIII [450] c. icon. & IX [765], Syn: Ramularia gibba Fuckel, Syll. IV [200], Ram. gibba var: Ranunculi auricomi Sacc., Syll. IV [206].

Ranunculus lingua (hosp. nov.). S. Gammelmosen (R 06 cc [357]). *Ranunculus auricomus*. F. Klingstrup (11/5 78); S. Haslev Urned (! Exs. Kab. & Bub.), Tjustrup, Hammer (Jak. Lge). *Ranunculus acer*. S. Stigsnæs (Lind 07 b).

2932. **Ramularia armoraciae** Fuckel, Syll. IV [201], Ldau VIII [453] c. icon.

Common on living leaves of *Roripa armoracia* (R 02 a [601]).

2933. **Ramularia cardamines** Sydow, Syll. XVIII [547], Ldau VIII [454].

Cardamine pratensis. J. Dvergetved (8/7 02!).

2934. **Ramularia agrestis** Sacc., Syll. IV [202], Ldau VIII [469].
Common on living leaves of *Viola tricolor* cult. (R 99 a [273]).

2935. **Ramularia deflectens** Bresadola, Syll. XIV [1059], Ldau VIII [469].
Viola tricolor. J. Flade ([27]/9 08 M. L. M.).

2936. **Ramularia lactea** (Desm.) Sacc., Syll. IV [201], Ldau VIII [468].
Very common on living leaves of *Viola odorata* (R 02 a [602]).

2937. **Ramularia acutata** (Bon.)!, Syn: Ovularia acut. (Bon.) Sacc., Syll. IV [142], Ldau VIII [249], Ramularia violae Trail, Syll. X [555], Ldau VIII [470], "Phyllosticta violae Desm." in Rabenhorst's Fungi Europ. no 1263.
Viola canina common. *Viola silvatica.* J. Odden Skov!; S. Hvalsø (! Exs. Kab. & Bub. no 688); B. Rø Plantage.

2938. **Ramularia malvae** Fuckel, Syll. IV [205], Ldau VIII [467], Syn: Ram. malvae moschatae (Sacc.) Vgr., Syll. IV [205].
Malva moschata. J. Viborg ([20]/9 04!, Exs. Kab. & Bub. no 437).

2939. **Ramularia geranii** (West.) Fuckel, Syll. IV [204], Ldau VIII [464], Syn: Ram. geranii silvatici Vgr. 99 [163], Syll. XVI [1041], Ram. geranii sanguinei Mass., Syll. XVI [1041].
Common on living leaves of *Geranium pusillum, molle, pyrenaicum, silvaticum, pratense, sanguineum.* All the year round.

2940. **Ramularia erodii** Bresadola, Syll. XIV [1061], Ldau VIII [466].
Erodium cicutarium. Falst. Orehoved.

2941. **Ramularia saxifragae** (Schroeter) Sydow, Syll. XIV [1061], Ldau VIII [455].
Saxifraga granulata. J. Viborg ([31]/5 06!).

2942. **Ramularia ulmariae** Cooke, Syll. IV [204], Ldau VIII [456].
Filipendula hexapetala. F. Skaarup.

2943. **Ramularia arvensis** Sacc., Syll. IV [203], Ldau VIII [460], Syn: Ram. anserina All., Syll. XIV [1060].
Potentilla reptans, common.

2944. **Ramularia gei** (Fuckel) Ldau IX [766], Syn: Ram. gei (Eliasson) Liro, Syll. XVIII [547], Ldau VIII [458], Ram. gei Rostrup 04 f [42], Ovularia gei Eliass., Syll. XIV [1053].
Quite common on living leaves of *Geum rivale & urbanum.*

2945. **Ramularia Tulasnei** Sacc., Syll. IV [203], Ldau VIII [457], Hedlund 10.
On leaves of *Fragaria vesca,* common in the gardens.

2946. **Ramularia galegae** Sacc., Syll. IV [202], Ldau VIII [462].
Galega officinalis. J. Rodved Kjærsgaard (! 11/8 11).

2947. **Ramularia onobrychidis** All., Syll. XI [604], Ldau VIII [463], R 02 a [602] & 02 c [124].
Onobrychis sativa. S. Lyngby (27/9 01).

2948. **Ramularia Winteri** Thümen, Syll. IV [202], Ldau VIII [461].
Ononis arvensis. Læsø!. *Ononis spinosa.* S. Sonnerup Plantage (29/8 98 see R 99 a [272]).

2949. **Ramularia punctiformis** (Schlecht.) v. Höhnel, Syll. IV [453], Syn: Fusidium punct. Sch., Syll. IV [29], Ldau VIII [63], Cercospora montana Sacc., Syll. IV [453], Ramularia Karstenii Sacc., Syll. XI [603], Ram. enecans Magnus, Syll. XI [603] & XIV [1060], Ram. montana Speg., Syll. XVIII [550], Ldau VIII [471], ? Ram. cercosporoides Ell. & Ev. Syll. XIV [1060] (see Lind 07 a [388]).
Chamaenerium angustifolium, common. *Epilobium montanum.* J. Knivholt!, Rydhave!, Skive!, Viborg!, Vivebrogaard!; F. Svenborg.

2950. **Ramularia epilobii palustris** All., Syll. XI [603], Ldau VIII [473].
Epilobium palustre. J. Sæby, Viborg!; B. Almindingen.

2951. **Ramularia epilobii parviflori** Liro, Syll. XVIII [549], Ldau VIII [473].
Epilobium hirsutum. F. Klingstrup. *Epilobium parviflorum.* J. Fredrikshavn!; Lang. Carlseje; S. Gentofte; L. Stensgaard; B. Strandskoven!.

5952. **Ramularia epilobii rosei** Ldau VIII [474].
Epilobium roseum. J. Knivholt!, Viborg (19/6 03!, Exs. Kab. & Bub. no 489); F. Skaarup (11/6 78); B. Svaneke.

2953. **Ramularia circaeae** All., Syll. XI [603], Ldau VIII [471].
Circaea lutetiana. S. Ermelunden; L. Stenskoven (abundantly 5/8 98 see R 99 a [273]).

2954. **Ramularia anthrisci** v. Höhnel, Syll. XVIII [551], LdauVIII [475].
Anthriscus silvester. J. Flade (9/7 03!). Skive!, Viborg.

2955. **Ramularia cicutae** Karsten, Syll. IV [206], Ldau VIII [476].
Common on living leaves of *Cicuta virosa* (Exs. Kab. & Bub. no 333).

2956. **Ramularia angelicae** v. Höhnel, Syll. XVIII [550], Ldau VIII [474].
Angelica silvestris. J. Sodal (7/6 04!).

2957. **Ramularia heraclei** (Ouds.) Sacc., Syll. IV [206], Ldau VIII [477].
Heracleum sphondylium, very common, July—October.

2958. **Ramularia lysimachiae** Thümen, Syll. IV [213], Ldau VIII [483].
Lysimachia thyrsiflora. S. Gammelmosen (R 06 cc), Lekkende. *Lysimachia vulgaris.* J. Bangsbo!, Demstrup!.

2959. **Ramularia lysimachiarum** Liro, Syll. XVIII [551], Ldau VIII [484].
Lysimachia nummularia. L. Stensgaard ([3]/8 98 see R 99 a [273]).

2960. **Ramularia Magnusiana** (Sacc.) Ldau VIII [483], Syn: Septocylindrium Magn. Saccardo, Syll. IV [223].
Trientalis europaea, common (Exs. Kab. & Bub. no 339).

2961. **Ramularia primulae** Thümen, Syll. IV [214], Ldau VIII [482], R 02 a [603].
Primula veris culta. J. Skive!. *Primula elatior.* J. Nebsager (O. R.); F. Dalum (Jak. Lge), Skaarup; S. Basnæs. *Primula acaulis.* F. Vejstrup; S. Asnæs; Møen Klinteskov.

2962. **Ramularia statices** Rostrup 04 f [42], Syll. XVIII.
Conidiis cylindraceis, utrinque rotundatis, 31—33 µ × 3—3,5 µ.
Limonium vulgare. S. Skelskør ([23]/6 07!).

2963. **Ramularia cylindroides** Sacc., Syll. IV [206], Ldau VIII [486], v. Höhnel 02.
Pulmonaria officinalis. F. Kerteminde, Ringe!, Skaarup; Thorseng Bregninge; S. Hareskoven (Gad), Knabstrup!. June—August.

2964. **Ramularia anchusae** Mass., Syll. XI [604], Ldau VIII [487] c. icon., Syn: Ram. anchusae officinalis Eliasson, Syll. XIV [1062].
Anchusa officinalis, common. *Echium vulgare.* S. Knabstrup!.

2965. **Ramularia dulcamarae** Peck, Syll. IV [213].
In living leaves of *Solanum tuberosum.* S. Rørvig (July 92).

2966. **Ramularia variabilis** Fuckel, Syll. IV [212], Ldau VIII [497], R 02 a [603].
Digitalis purpurea. J. Astrup!; S. Grønnehave. *Verbascum nigrum.* J. Aggersborg; S. Lyngby!. *Verbascum thapsus.* F. Hallenskov; S. Slotsbjergby!; Møens Klint. *Verbascum thapsiforme.* S. Gentofte, København.

2967. **Ramularia coccinea** (Fuckel) Vgr., Syll. XVI [1044] & XVIII [553], Ldau VIII [495], Syn: Fusidium coccineum Fuckel, Syll. IV [29], Ldau VIII [65].
Veronica officinalis. J. Sindal!; F. Dalum (Jak. Lge), Glorup Dyrehave (R 97 m [49]); Møen Liselund ([2]/8 88).

2968. **Ramularia beccabunga** Fautrey, Syll. X [561], Ldau VIII [495].
Veronica beccabunga. F. Tange Aa.

2969. **Ramularia anagallidis** Liro, Syll. XVIII [553], Ldau VIII [494], Syn: Ram. nivea Kab. & Bub., Syll. XVIII [553].
Veronica anagallis, common.

2970. **Ramularia pseudococcinea** Liro, Syll. XVIII [553], Ldau VIII [496].
Veronica chamaedrys. J. Greisdalen; B. Helligdommen (Neger 06 [370]).

2971. **Ramularia plantaginea** Sacc., Syll. IV [214], Ldau VIII [502].
Conidiis cylindraceis, utrinque rotundatis, 40—48 μ × 5 μ, septatis.
Plantago lanceolata. J. Skive!, Esbjerg!; F. Svenborg (C. J. Johanson).

2972. **Ramularia plantaginis** Ellis & Mart., Syll. IV [214], Ldau VIII [502].
Plantago major. J. Fredrikshavn!, Viborg!, Horsens (! Exs. Kab. & Bub. no 392); Lang. Carlseje; S. Lyngby (K. H.).

2973. **Ramularia exilis** Sydow, Syll. XVIII [554], Ldau VIII [490].
Lamium galeobdolon. J. Stensballegaard Skov ($^{22}/_{9}$ 01!).

2974. **Ramularia calcea** (Desm.) Ces., Syll. IV [212], Ldau VIII [489].
Glechoma hederacea. Common, June—October.

2975. **Ramularia ajugae** (Niessl.) Sacc., Syll. IV [212], Ldau VIII [488] & IX [773], Syn: Ram. tozziae Ldau VIII [501].
Ajuga reptans. J. Vindum!, Marsvinslund!, Friisenlund, Horsens!; Fænø.

2976. **Ramularia menthicola** Saccardo, Syll. IV [213], Ldau VIII [492].
Mentha aquatica. J. Gadholt!. *Mentha silvestris*. J. Viborg!. *Mentha spicata*. L. Dannemare (Exc. $^{5}/_{8}$ 84).

2977. **Ramularia macrospora** Fres., Syll. IV [211], Ldau VIII [508].
Campanula glomerata. S. Rødevejrmøllegaard, Glostrup etc.

2978. **Ramularia macrospora** Fres., var **major** Liro, Syll. XVIII [554], Ldau VIII [509].
Campanula rapunculoides. J. Buderupholm (! Exs. Vgr.); S. Holte!, Vintappergaarden, Slagelse!: Baagøe; L. Juellinge, Engestofte; Falst. Stubbekøbing, Moseby.

2979. **Ramularia macrospora** Fres. var **campanulae trachelii** Sacc., Syll. IV [211], Ldau VIII [509].
Campanula trachelium. J. Understed!, Krabbesholm!: Falst. Virket!.

2980. **Ramularia campanulae-latifoliae** All., Syll. XI [605] & XIV [1063], Ldau VIII [510].
Campanula latifolia. S. Skjelskør!.

2981. **Ramularia sambucina** Sacc., Syll. IV [197], Ldau VIII [503], R 02 a [601].
Sambucus nigra, common, July—October.

2982. **Ramularia valerianae** (Speg.) Sacc., Syll. IV [207], Ldau VIII [505].

Valeriana sambucifolia & *officinalis*, common. *Valeriana dioeca*. L. Stokkemarke.

2983. **Ramularia scabiosae** spec. nov.

Maculis amphigenis, subcircularibus, expallentibus; caespitibus minutissimis, gregariis, punctiformibus, niveis; hyphis fasciculatis, numerosis, cylindraceis, rectis, apice dilatatis, 1—3-denticulatis, 2—3-septatis, 32 μ × 4 μ. Conidiis cylindraceo-ellipticis, 1-septatis, 16—25 μ × 5 μ.

On living leaves of *Scabiosa columbaria*. S. Jernet (4/8 87).

2984. **Ramularia silvestris** Sacc., Syll. IV [207], Ldau VIII [506].

Dipsacus silvester. S. Førslevgaard (21/8 09!).

2985. **Ramularia tricherae** Liro, Syll. XVIII [555], Ldau VIII [507].

Knautia arvensis. F. Vejstrup Aaskov. September.

2986. **Ramularia succisae** Sacc., Syll. IV [207], Ldau VIII [506].

Succisa praemorsa. J. Hald (19/8 04!).

2987. **Ramularia cirsii** Allescher, Syll. XI [605], Ldau VIII [522].

Cirsium arvense (hosp. nov.). S. Jægersborg Dyrehave.

2988. **Ramularia cynarae** Sacc., Syll. IV [208], Ldau VIII [523] c. icon., R 02 a [603].

Silybum marianum. S. Landbohøjskolens Have. October.

2989. **Ramularia centaureae** Liro, Syll. XVIII [555], Ldau VIII [522].

Centaurea scabiosa. S. Husum (28/7 08!).

2990. **Ramularia filaris** Fres., Syll. IV [210], Ldau VIII [519], Syn: Ram. variegata Ell. & Holw. var petasitis officinalis All., Ldau VIII [516], Ram. cervina Speg. var. petasitis Bäumler.

Petasites officinalis. J. Viborg Sø (abundantly 27/6 04!).

2991. **Ramularia tanaceti** Lind 05 [431], Ldau VIII [514], see tab. IX.

Tanacetum vulgare. J. Viborg (! Exs. Kab. & Bub. no 440); S. Gisselfeld (27/6 92).

2992. **Ramularia pruinosa** Speg., Syll. IV [210], Ldau VIII [518].

Senecio Jacobaea. J. Skørping!, Dollerup!; F. Skaarup (4/11 77); S. Rørvig, Flaskekroen.

2993. **Ramularia senecionis** (Berk. & Br.) Sacc., Syll. IV [210], Ldau VIII [517].

Cineraria palustris. J. Viborg (July 04!, Exs. Kab. & Bub no 393); S. Borreby!.

2994. **Ramularia cupulariae** Passerini, Syll. IV [208], Ldau VIII [512],

Syn: Ovularia inulae Sacc., Syll. IV [141], Ldau VIII [257], Ramularia in. (Sacc.) v. Höhnel, Ldau IX [777], Ram. inulae britannicae All., Syll. XVIII [556].

Inula dysenterica. F. Bjørnemose, Svenborg!. *Inula conyza.* F. Korshave.

2995. **Ramularia concomitans** Ellis & Holway, Syll. X [557], Ldau VIII [514].

Bidens tripartita. J. Asmildkloster ($^{4}/_{8}$ 03!, new for Europe).

2996. **Ramularia asteris** (Plowr. & Phil.) Bubak 08 [27], Ldau IX [775], Syn: Fusidium ast. P. & P., Syll. IV [29], Ramularia asteris Trel., R 04 f [42], Ramularia asteris tripolii Jaap Exsicc. no 293.

Aster tripolium. J. Hjarbæk ($^{4}/_{7}$ 01! Exs. Kab. & Bub. no 388 and Vgr. no 1094); F. Bjørnemose; S. Fredrikssund!, Charlottenlund, Flaskekroen; Falst. Grønsund.

2997. **Ramularia lampsanae** Sacc., Syll. IV [207], Ldau VIII [523] c. icon.

Lampsana communis, common.

2998. **Ramularia taraxaci** Karsten, Syll. IV [207], Ldau VIII [529].

Taraxacum vulgare, common.

2999. **Ramularia pieridis** Fautrey & Roum., Syll. X [558], Ldau VIII [525].

Picris hieracioides. F. Tiselholt!; Falst. Moseby ($^{6}/_{8}$ 78).

Mucedinaceae—Hyalohelicosporae.

Helicomyces.

3000. **Helicomyces albus** Preuss, Syll. IV [234], Ldau VIII [535].

On branches of *Prunus avium.* F. Skaarup ($^{10}/_{6}$ 82).

3001. **Helicomyces aureus** Corda, Syll. IV [233], Ldau VIII [533].

On wood. S. Ruderhegn (Sept. 90 see R 91 j).

Mucedinaceae—Hyalostaurosporae.

Trinacrium.

3002. **Trinacrium torulosum** Sacc. & Malbr., Syll. IV [231].

On bark of *Fagus silvatica.* S. Fredriksdal ($^{18}/_{11}$ 94 F. K. R.).

Titaea.

3003. **Titaea maxilliformis** Rostrup 94 f [46] c. icon., Syll. XI [608], Ldau VIII [545].

Effusa, tota hyalina; conidia composita ex 5 articulis erectis inter se varie connexis; articulus inferior teres, continuus vel 1-septatus, basilaris, 8—10 μ long.; superior cylindraceus 18—20 μ × 2—3 μ, utrinque rotundatus, 3-septatus, cui lateraliter additur articulus alter similis, sed angustior; e lateribus trium articulorum assurgit utrinque seta sigmoideo-inflexa, apice acutissima, 20—24 μ longa.

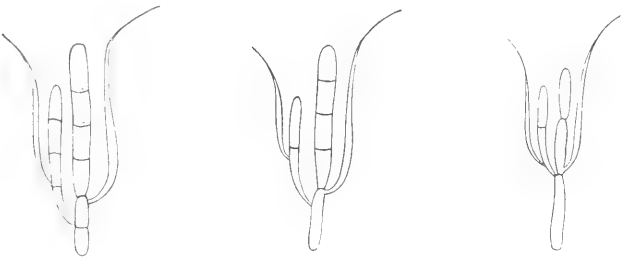


Fig. 37. Titaea maxilliformis.
3 conidia $\frac{1500}{1}$. From R 94 f.

On stems of *Trifolium pratense*, in company with Typhula trifolii, L. Nakskov (Jan. 90).

3004. **Titaea ornithomorpha** Trotter, Syll. XVIII [560].

On stems of *Lepigonum rubrum*. J. Borris Hede (see F. & W. 08).

Dematiaceae—Phaeosporae.

Coniosporium.

3005. **Coniosporium physciae** (Kalchbr.) Sacc., Syll. IV [246], Ldau VIII [553].

Xanthoria parietina. S. Roskilde. May.

3006. **Coniosporium filicinum** Rostrup 98 f, 02 a [605], Ldau VIII [553].

Conidiis ellipsoideis 8—10 μ × 5—6 μ vel sphaeroideis 5—6 μ diam.

On leaves of *Pteris cretica*. F. Svenborg (Quist); S. Kbh. ([10]/11 98 Ludv. Andersen).

3007. **Coniosporium nigrum** Fries S. M. III [256], Syll. IV [240], Ldau VIII [554].

On wood of *Picea excelsa*. F. Trolleborg.

3008. **Coniosporium caricis montanae** Lindau VIII [555], see tab. IX.

Carex montana. J. Skovsgaard near Viborg (! [10]/6 04).

3009. **Coniosporium bambusae** (Thümen & Bolle) Sacc., Syll. IV [244], Ldau VIII [556].
On bamboo-canes. S. Botanisk Have.

3010. **Coniosporium rhizophilum** (Preuss) Sacc., Syll. IV [244], Ldau VIII [557].
On roots of *Secale cereale*. S. Hornbæk (Aug. 99). *Triticum repens*. F. Skaarup.

3011. **Coniosporium arundinis** (Cda.) Sacc., Syll. IV [243], Ldau VIII [555] c. icon.
Arundo phragmites. Common June—August. *Hordeum arenarium*. J. Raabjerg Mile. *Calamagrostis arenarium*. J. Skagen.

3012. **Coniosporium inquinans** Dur. & Mont., Syll. IV [243].
On straw. J. Skagen (E. W.); Lyngby Mose (O. R.).

3013. **Coniosporium secalis** Karsten, Syn: Con. arundinis (Cda.) Sacc., var secalis K., Syll. X [571], Ldau VIII [556].
Secale cereale. J. Viborg!; S. Hornbæk, Lyngby.

3014. **Coniosporium miserrimum** Karsten, Syll. IV [241].
On wood. S. Geelskov (O. R.). On bark of *Betula (nana)*, found in interglacial deposits near Brørup J. (see Hartz 09 [148—154]).

Fusella.

3015. **Fusella olivacea** (Cda.) Sacc., Syll. IV [246], Ldau VIII [566].
Selinum lineare. S. Flaskekroen. October.

Torula.

Torula rhododendri corresponds to Antennularia rhod. (see v. Höhnel 09 [1197]).
— Lechleriana — — ericophila (see v. Höhnel 09 [1197]).

3016. **Torula chartarum** (Fries) Cda., Syll. IV [261], Ldau VIII [591] c. icon., Syn: Oidium chart. Fries S. M. III [349].
On wall-paper. S. Landbohøjskolen.

3017. **Torula graminis** Fries S. M. III [502], Syll. IV [258], Ldau VIII [580].
On straw. S. Ruderhegn (O. R.). *Bromus unioloides*. S. København (O. R.). *Glyceria aquatica*. S. Damhussøen (October O. R.). *Aira caespitosa*. F. Klingstrup; S. Tokkekøb Hegn (O. R.), Charlottenlund (O. R.). *Aira flexuosa*. J. Klokkedalen!.

3018. **Torula monilioides** Cda., Syll. IV [254], Ldau VIII [571].
On mucous flux on stems of *Ulmus montana*. J. Krabbesholm Skov!.

3019. **Torula antennata** Pers., Syll. IV [249], Ldau VIII [571].
Corylus. S. Boserup. *Lonicera xylosteum*. Møens Klint!. *Fraxinus excelsior*. S. Charlottenlund (Dec. 87 O. R.), Boserup (May).

3020. **Torula caesia** (Fuckel) Sacc., Syll. IV [251], Ldau VIII [573].
On the bark of *Fagus silvatica*. F. Gravvænge ([23]/10 79).

3021. **Torula faginea** Fuckel, Syll. IV [251], Ldau VIII [573].
Fagus silvatica. S. Tokkekøb Hegn, Aasevang (O. R. May 91).

3022. **Torula expansa** Fries S. M. III [501], Syll. IV [256], Ldau VIII [569].
On dead stems of *Cruciferae*. J. Nebsager (July 91 O. R.).

3023. **Torula herbarum** Fries S. M. III [501], Syll. IV [256], Ldau VIII [575].
On dead stems of *Urtica*. S. København (O. R.). *Corylus avellana*. J. Krabbesholm!. *Anthriscus silvester*. S. Bidstruphegn (Octob. 90 O. R.), Roskilde (O. R.). *Solanum tuberosum*. J. Bangsbo!, Dalum (Jak. Lge).

3024. **Torula conglutinata** Cda., Syll. IV [262], Ldau VIII [593].
Onobrychis sativa. S. København (Nov. 88 O. R.).

3025. **Torula sambuci** Fuckel, Syll. IV [249], Ldau VIII [574].
Sambucus nigra. S. Skjelskør ([22]/6 07!).

Hormiscium.

3026. **Hormiscium pinophilum** (Fries) Ldau VIII [597] c. icon., Syn: Antennaria pin. Nees, Fries S. M. III [231], Hormiscium pityophilum (Wallr.) Sacc., Syll. IV [265].
Abies alba. F. Vejstrup. *Pinus montana*. J. Tvorup Klit. *Picea nigra*. F. Hofmansgave (N. E. Hofman-Bang).

3027. **Hormiscium stilbosporum** (Cda.) Sacc., Syll. IV [264], Ldau VIII [601] c. icon.
On twigs of *Salix alba*. F. Skaarup. *Salix caprea*. F. Hindsgavl. *Salix dasyclados*. S. Fredriksborg (! Exs. Kab. & Bub. no 593).

3028. **Hormiscium antiquum** (Cda.) Sacc., Syll. IV [264], Ldau VIII [599] c. icon.
On wood of *Betula*. B. Almindingen (Exc. [16]/5 11). On bark of *Corylus avellana*. S. Haslev Urned ([26]/5 11!).

3030. **Hormiscium laxum** Wallr., Syll. IV [266], Ldau VIII [602].
On decayed stems of *Brassica oleracea*. S. Prinsessestien (L. K. R.).

3031. **Hormiscium centaurii** (Fuckel) Sacc., Syll. IV [265], Ldau VIII [604].
Erythraea litoralis. S. Masnedsund; Falst. Bøtø. *Erythraea centaurium*. L. Halsted. July—August.

Echinobotryum.

3032. **Echinobotryum atrum** Cda., Syll. IV [268], Ldau VIII [609] c. icon.
On roots of *Pirus communis*. S. Korsør (17/6 11!); L. Guldborghave.

Periconia.

3033. **Periconia byssoides** (Fries)!, Syll. IV [271], Ldau VIII [613], Syn: Sporocybe bys. Fries S. M. III [343].
Juncus glaucus. F. Skaarupør. *Sonchus paluster*. F. Bjørnemose.

3034. **Periconia nigrella** (Berkeley) Sacc., Syll. IV [330], Ldau VIII [617].
On barley corn. Falst. Stubbekøbing.

3035. **Periconia pycnospora** Fresenius, Syll. IV [271], Ldau VIII [613].
On branches of *Rubus idaeus*. S. Førslevgaard!. On stems of *Cirsium palustre*. J. Nebsager (July 91 O. R.).

Stachybotrys.

3036. **Stachybotrys atra** Cda., Syll. IV [269], Ldau VIII [628].
On card-board. S. København (O. R.).

3037. **Stachybotrys alternans** Bonorden, Syll. IV [269], Ldau VIII [628].
On filtering-paper. S. København (O. R.), Ørsløv (P. N.).

Wallemia.

3038. **Wallemia ichtyophago** Johan-Olsen.
On split cod from Norway and from America.

Camptoum.

3039. **Camptoum curvatum** (Fries) Link, Syll. IV [276], Ldau VIII [633] c. icon., Syn: Arthrinium curv. Fries S. M. III [377].
Scirpus silvaticus. J. Horsens!; S. Usserød!, Lyngby Mose (O. R.).

Goniosporium.

3040. **Goniosporium puccinioides** (Fries) Link, Syll. IV [280], Ldau VIII [636] c. icon., Syn: Arthrinium pucc. Kunze, Fries S. M. III [376].
Carex digitata. J. Buderupholm; S. Lellinge Aa. *Carex glauca*. F. Skaarup; Am. (O. R.); L. Stensgaard. *Carex spec*. J. Rindsholm (26/4 89 Gad); S. Jægerspris, Lystrup!, Jonstrup Vang (O. R.).

Arthrinium.

3041. **Arthrinium bicorne** R 96 m [235], Syll. X [579], Ldau VIII [641] see tab. IX.

Juncus filiformis. J. Gaardbogaard (O. R.), Viborg (! see R 05 b [315]). *Juncus Gerardi.* J. Horsens!. *Juncus compressus.* S. Flaskekroen (R 05 b [315]).

3042. **Arthrinium naviculare** R 86 m, see tab. IX.

Atrum, in caespitibus hemisphaericis parvis congestum; hyphis ramosis, hyalinis, septatis, sepimentis crassiusculis nigris; conidiis lanceolatis, botuliformibus, atro-fuscis, 40—50 μ × 11—14 μ.

Hitherto only recorded from Lappland on dead leaves of Carex vaginata and sparsiflora.

J. Eistrup. In interglacial deposits (see Hartz 09 [228]).

3043. **Arthrinium caricicola** Fries S. M. III [376], Syll. IV [279], Ldau VIII [639] c. icon.

Carex ericetorum. J. Skive!, Horsens!; S. Ørholm (June 77).

3044. **Arthrinium Morthieri** Fuckel, Syll. IV [279], Ldau VIII [639].

Carex digitata. Møens Klint (Aug. 79). *Carex panicea.* J. Viborg!; S. Bromme Sø.

3045. **Arthrinium sporophleoides** Fuckel, Syll. IV [279], LdauVIII [640].

Carex riparia. S. Hornbæk Plantage. *Carex pseudocyperus.* S. Søndersø (Aug. 89 O. R.).

3046. **Arthrinum sporophleum** Fries S. M. III [377], Syll. IV [279], Ldau VIII [638].

Carex acutiformis. S. Hørsholm!. *Carex Davalliana.* S. Søndersø. *Carex silvatica.* F. Skaarup ([25]/5 82). *Carex hirta.* Møens Klint. *Carex spec.* J. Rindsholm (Gad); S. Vallensbæk Mose. *Scirpus silvaticus.* S. Hørsholm!. *Glyceria fluitans.* F. Skaarup.

Trichosporium.

3047. **Trichosporium calcigenum** (Fries) Sacc., Syll. IV [295], Ldau VIII [658], Syn: Sporotrichum calcigena Link, Fries S. M. III [420].

On picture-frames. S. Roskilde Domkirke (Chr. 4. Kapel. [26]/4 02).

3048. **Trichosporium chartaceum** (Pers.) Sacc., Syll. IV [294], Ldau VIII [657].

On old wall-paper. S. Gentofte ([11]/7 03 Hermansen).

3049. **Trichosporium fuscum** (Link) Sacc., Syll. IV [289], Ldau VIII [644], Syn: Racodium umbrinum Schum. no 2183 (according to specimens in Schumacher's herbarium).

S. On wood (Schum.).

3050. **Trichosporium olivatrum** Sacc., Syll. IV [293], Ldau VIII [654] c. icon.

On dead branches of *Vitis vinifera.* S. Bernstorff ([16]/3 02 Bruun).

3051. **Trichosporium pullum** (Fries) Sacc., Syll. IV [292], Ldau VIII [659], Syn: Dendrina pulla Fries S. M. III [454].

Hyphis septatis usque ad 18 μ cras., atrofuscis, apice pallidioribus, attenuatis; conidiis olivaceis, sphaeroideis, 18—20 μ diam., episporio granuloso.

On dead stems of *Anthriscus silvester*. J. Stensbæk near Sindal (1/8 06!).

Rhinocladium.

3052. **Rhinocladium torulosum** (Bon.) Sacc., Syll. IV [295], Ldau VIII [664].

Lonicera periclymenum. B. Dybdalskov (July 91 O. R.).

Monotospora.

3053. **Monotospora megalospora** Berk. & Br., Syll. IV [299], Ldau VIII [681].

On branches of *Fagus silvatica* (March 07 O. R.).

Hadrotrichum.

The forms of Hadrotrichum correspond to the species of Dothideales see pag. 180.

3054. **Hadrotrichum phragmitis** Fuckel, Syll. IV [301], Ldau VIII [683] c. icon.

Arundo phragmites. J. Løgstør (Aug. 73 Th. Jensen); Lang. Tranekær; S. Ørsløv (P. N.); L. Stensgaard, Rødby.

3055. **Hadrotrichum virescens** Sacc. & Roum., Syll. IV [301], Ldau VIII [683].

A true parasite, attacking living leaves. May—Sept. Placosphaeria graminis and Phyllachora agrostidis often appears later on on the same leaves.

Hyphis rectis, 1-septatis, c. 8 μ crass. Conidiis sphaeroideis, 10—16 μ diam.

Agrostis alba. J. Dvergetved!, Viborg!, Rindsholm (Gad); S. Lyngby. *Agrostis vulgaris*. J. Bruddal!.

Dematium.

3056. **Dematium hispidulum** Fries S. M. III [365], Syll. IV [308], Ldau VIII [689] c. icon.

Aira caespitosa. J. Rindsholm (Gad); S. Lyngby Mose (O. R.). *Agrostis vulgaris*. F. Lundeborg. April—May.

3057. **Dematium stemonitideum** (de Not.) Sacc., Syll. IV [308], Ldau VIII [690].

Festuca rubra. J. Horsens ([22]/3 02!).

Catenularia.

3058. **Catenularia fuliginea** Saito.

Hitherto only recorded from Japan. In dust in the air. S. København (see O. R. 08).

Haplographium.

3059. **Haplographium chlorocephalum** (Fres.) Grove, Syll. IV [306], Ldau VIII [693] c. icon.

Carex riparia. S. Hvalsølille Sø.

3060. **Haplographium toruloides** (Fres.) Sacc., Syll. IV [306], Ldau VIII [696].

On ears of *Secale cereale*. S. Øvrerød. *Scirpus lacustris*. S. Sjælsø (June 03 O. R.).

Sarcopodium.

3061. **Sarcopodium roseum** (Cda.) Fries S. V. [472], Syll. IV [312], Ldau VIII [707].

Cirsium arvense. S. Jægersborg.

Myxotrichella.

3062. **Myxotrichella fusca** (Fries) Lindau VIII [715], Syn: Myxotrichum fuscum Fries S. M. III [347], Syll. IV [319], Dematium fuscum Schum. no 2169, Fl. D. tab. 2277 fig. 3, Bruun Svampehaar (H. 37 [897]).

S. "In stramine subputrido. Autumno" (Schum.).

Chloridium.

3063. **Chloridium polysporum** (Wallr.) Sacc., Syll. IV [323], Ldau VIII [725].

On decaying cucumbers ([22]/6 92 C. Mikkelsen see R 92 l).

Menispora.

3064. **Menispora Libertiana** Sacc., Syll. IV [327], Ldau VIII [737]. Syn: Ciliofusarium umbrosum R 92 g [77], Syll. XI [656], Ldau IX [643], see tab. IX.

On wood. S. Geelskov (Dec. 88 O. R.).

3065. **Menispora ciliata** Cda., Syll. IV [326], Ldau VIII [737] c. icon.

On bark of *Fagus silvatica*. S. Sorø ([16]/4 81 V. Sarauw).

Fuckelina.

3066. **Fuckelina microspora** Sacc., Syll. IV [330], Ldau VIII [746].
On wood. S. Ermelunden (April 08 O. R.).

Chalara.

3067. **Chalara cylindrica** Karsten.
On leaves of *Picea excelsa* (leg. Ø. W. 1905).

3068. **Chalara ginkgonis** F. & W. 07 [256] c. icon., Ldau IX [792].
On fallen leaves of *Ginkgo biloba*. S. Botanisk Have (Febr. 07).

Dematiaceae—Phaeodidymae.

Dicoccum.

3069. **Dicoccum asperum** (Cda.) Ldau VIII [764] c. icon., Syn. Trichocladium asperum Harz, Syll. IV [376].
Its spores are found in the air (see O. R. 08).

Bispora.

3070. **Bispora monilioides** Cda., Syll. IV [343], Ldau VIII [767], R 02 a [605].
Very common on wood and stumps of *Fagus silvatica*.

Fusicladium.

The form-species of Fusicladium are corresponding to the species of Venturia see pag. 212.

3071. **Fusicladium saliciperdum** (All. & Tub.) Fabricius 04 [281], Ldau VIII [776], Syn: Septogloeum salic. All. & Tub. All. VII [627], Fus. ramulosum Rostrup 83 d [284] partim see Ldau VIII [776], Pileskurv (R 02 a [464] c. icon.), Lit: Lind 05, Potebnia 10 [90].
Salix alba. F. Skaarup. *Salix fragilis* × *pentandra*. F. Tangegaard ([30/5]). *Salix japonica pendula*. F. Odense. *Salix molissima*. S. Barfredshoj.

3072. **Fusicladium radiosum** (Lib.) Lind 05, Ldau VIII [777], Syn: Napicladium tremulae (Frank) Sacc., Syll. IV [482], Cladosporium asteroma Fuckel, Syll. IV [357], Fusicladium ramulosum R 89 k, Aspeskurv (R 02 a [463]).
Very common on living leaves of *Populus alba, alba* × *tremula, tremula, nigra, pyramidalis*, June—October.

3073. **Fusicladium cerasi** (Rbh.) Eriks. 85, Syll. IV [346], Ldau VIII [783], ? Syn: Cladosporium carpophilum Thümen, Syll. IV [353], R 02 a [467].

On fruit of *Prunus acida*. J. Stensballe; F. Skaarup!; Lang.; S. Hillerød, Holte!, København; L. Hardenberg ([30]/7 98).

3074. **Fusicladium pomi** (Fries)!, Syn: Spilocaea pomi Fries S. M. III [504], Fusicl. dendriticum (Wallr.) Fuckel, Syll. IV [345], Ldau VIII [779], Scolecotrichum venosum (Bon.) Sacc., Syll. IV [348], Asteroma mali Desm., Syll. III [206], All. VI [467] & VII [853] (see Diedicke 11 b); Æbleskurv (R 84 g & 93 t pag. XXXV), Vandpletter (Bredsted 93), Lit: R 98 o, 02 a [461] c. icon., F. K. R. 04.

Is for the first time recorded from Denmark in the year 1878 (see R 80 a [149] and Om Landbrugets Kulturplanter vol. I [134], conf. Er. 85 [61]). Fries writes, however, even at the year 1829 (S. M. III [504]): "Nullum pomum silvestre ab hac immune vidimus; passim in hortensibus".

Very common on leaves, fruit and twigs of *Pirus malus, prunifolia, baccata* etc.

3075. **Fusicladium pirinum** (Lib.) Fuckel, Syll. IV [346], Ldau VIII [781], Syn: Fusidium pirinum (Cda.) Sacc., Syll. IV [27], Pæreskurv, R 84 g, Lit: R 81 a [95], 86 g, 02 a [458] c. icon., F. K. R. 04.

On leaves, fruit and twigs of *Pirus communis*.

3076. **Fusicladium pyracanthae** (Otth) Rostrup 02 a [467], Syn: Fus. pirinum var pyracanthae Thümen, Syll. IV [346], Ldau VIII [782], Passalora pyr. Otth, Syll. IV [617], Ldau VIII [793], Fusiclad. dendriticum var orbiculatum Ouds., Fusiclad. dend. var Pyracanthae Aderh. 03. Lit: Bubak 12 b [270].

On fruit and peduncles of *Cotoneaster pyracantha*. F. Odense ([24]/10 90 Th. Schiøtz see R 92 j [59]).

3077. **Fusicladium orbiculatum** (Desm.) Thümen, Syll. IV [345], Ldau VIII [782].

Sorbus fennica. S. Tisvilde. *Sorbus torminalis*. S. Basnæs ([20]/6 92 O. R. see R 93 e); Møen Ulfshale. *Sorbus aucuparia*. J. Viborg!.

3078. **Fusicladium crataegi** Aderh., Syll. XVIII [579], Ldau IX [778] c. icon.

On fruit of *Crataegus monogyna*. S. Lyngby!.

3079. **Fusicladium angelicae** (Fries)!, Syn: Dothid. ang. Fries S. M. II [561], Phyllachora ang. Fuckel, Syll. II [615], Wt. II [902], Fusicladium depressum (Berk. & Br.) Sacc., Syll. IV [346], Ldau VIII [786] c. icon., Passalora polytrincioides Fuckel.

Angelica silvestris, common, July—October. *Archangelica littoralis*. J. Aggersborg; S. Flaskekroen (Exc. [19]/9 83 & Exc. [2]/10 10). *Imperatoria ostruthium*. J. Ørslevkloster!.

3080. **Fusicladium fraxini** (Fries) Aderh., Syll. XIV [1078], Ldau VIII [787], Syn: Dothidea frax. Fries S. M. II [561], Phyllachora fraxini R 80 a.

On living leaves of *Fraxinus excelsior* J. Tyrsbæk; F. Boltinggaard!, Skaarup, Klingstrup; S. Folehave, Boserup (O. R.) and many other places.

Passalora.

3081. **Passalora microsperma** Fuckel, Syll. IV [345], Ldau VIII [792], R 02 a [466].

Alnus incana. F. Brændeskov; S. Tisvilde.

3082. **Passalora bacilligera** Mont., Syll. IV [345], Ldau VIII [790] c. icon., Syn: Venturia bacilligera (Mont.) R 02 a [465] c. icon., Septoria alnicola (Cooke) R 80 a [143], Syll. III [506], All. VI [880], Phyllachora alnic. R 80 a [143], ? Oidium virescens Link partim.

On living leaves of *Alnus glutinosa*. A true parasite and very noxious. Recorded from all parts of the country.

Scolicotrichum.

3083. **Scolicotrichum clavariarum** (Desm.) Sacc., Syll. IV [349], Ldau VIII [794].

Its ascigerous fructification is Rosselinia clavariae.

On *Thelephora palmata*. S. Fredriksdal (Sept. 88 O. R.).

3084. **Scolicotrichum graminis** Fuckel, Syll. IV [348], Ldau VIII [794] c. icon., Græssernes Branddug (R 93 d [129], 95 n, 02 a [613]), Rækkeskimmel (R 06 a [83], M. L. M. July 10). Lit: F. K. R. 07 a [299].

Is supposed to constitute the conidial fructification of Mycosphaerella recutita (see Fuckel and R 93 d [129]).

Common on living leaves of *Dactylis glomerata, Poa compressa & trivialis, Glyceria fluitans & plicata, Festuca distans, Avena sativa, pubescens* (hosp. nov.), *elatior, Cynosurus cristatus, Milium effusum, Anthoxanthum odoratum, Alopecurus geniculatus, Phleum pratense, Triticum monococcum, Secale cereale.*

3085. **Scolicotrichum binum** (Cda.) Sacc., Syll. IV [349], Ldau VIII [794].

On wood of *Fagus silvatica*. S. Aasevang (May 91 O. R.).

Cladosporium.

3086. **Cladosporium aphidis** Thümen, Syll. IV [369], Ldau VIII [830], R 93 b [95].

On dead *Aphis spp.* very common especially on leaves of *Prunus domestica*.

3087. **Cladosporium exobasidii** Jaap Exsicc. no 200. ? Syn: Clad. fuliginosum Bon.

On *Exobasidium vaccinii* on leaves of *Vacc. uliginosum*. J. Vindum Skov!.

3088. **Cladosporium fuligineum** Bon., Syll. IV [368], Ldau VIII [808].
Agaricus. J. Hald!. *Coniophora puteana.* J. Viborg!. *Hydnum repandum.* S. Ruderhegn (Heckmann). *Polyporus cuticularis.* S. Dyrehaven (O. R.). *Polyp. frondosus.* L. Hardenberg (Bornebusch). September—January.

3089. **Cladosporium aecidiicola** Thümen, Syll. IV [368], Ldau VIII [806], Bäumler 87 [98], Syn: Mucor nigrescens Schum. no 1593 (see Fisch. IV [211]).
Aecidium frangulae. J. Odden Skov ([20]/7 01!).

3090. **Cladosporium epimyces** Cooke, Syll. IV [368].
Agaricus. S. Charlottenlund (March 98 O. R.).

3091. **Cladosporium entoxylinum** Cda., Syll. IV [353], Ldau VIII [811], R 02 a [615].
On wood of *Picea excelsa.* S. Kattrup Savværk. *Pinus silvestris.* F. Trolleborg ([10]/6 94); S. København. June—September.

3092. **Cladosporium fasciculare** Fries S. M. III [370], Syll. IV [367], Ldau VIII [817].
Asparagus officinalis. S. Landbohøjskolens Have; B. Rønne (Brodersen).

3093. **Cladosporium fasciculatum** Cda., Syll. IV [366], Ldau VIII [816].
Iris spuria. Saltholm. *Scirpus lacustris.* J. Fusingø!; S. Sjælsø (June 03 O. R.).

3094. **Cladosporium caricicola** Cda., Syll. IV [365], Ldau VIII [816].
Carex maxima. J. Munkebjerg.

3095. **Cladosporium typharum** Desm., Syll. IV [366], Ldau VIII [813].
Typha latifolia. J. Dvergetved, Viborg, Rindsholm; F. Lammehave.

3096. **Cladosporium sphaeroideum** Cooke, Syll. IV [365].
Aira caespitosa. S. Kjelderis Hegn (July 03 O. R.).

3097. **Cladosporium phragmitis** Oudemans, Syll. IV [370], Ldau VIII [814].
Hordeum arenarium. J. Tannishus ([15]/7 01!).

3098. **Cladosporium graminum** Cda., Syll. IV [365], Ldau VIII [815], R 02 a [614], Sortskimmel (R 81 a [91]), Kornets Branddug (R 97 [134]).
For its life-history see Bankroft 10 c. icon. Heterosporium graminum R 02 a [607] is to be sure identical with the present form (see Ldau IX [77]).
Common on living and dead leaves and straw of all species of *Gramineae,* also occuring on *Cladium mariscus.*

3099. **Cladosporium epiphyllum** Fries S. M. III [370], Syll. IV [360], Ldau VIII [804], Ørsted 63 [249] c. icon.
On fallen leaves of *Betula, Quercus robur* etc.

3100. **Cladosporium herbarum** Fries S. M. III [370], Syll. IV [350], Ldau VIII [800] c. icon., Syn: Dematium conicum Schum. no 2171, Fl. D. tab. 2277 fig. 2, Hormodendron cladosporioides Sacc., Syll. IV [310]. Alm. Greenstøv (H. 37 [897]).

Its ascigerous fructification is called Mycosphaerella Tulasnei (see Janczewski 94).

Common all the year round on all parts of herbacious plants, its spores are also found in the air (see Hansen 82 & O. R. 08). On dead leaves of *Pinus montana* it is of very frequent occurénce and is called Stilbospora acicola Rostrup 81 a [7], 83 d [280], Paulsen 98 [283].

3101. **Cladosporium paeoniae** Passerini, Syll. IV [362], Ldau VIII [822], R 02 a [614].

Paeonia officinalis. F. Skaarup ([11]/9 80); S. Sæbygaard.

3102. **Cladosporium Uleanum** Hennings, Syll. XI [620], Ldau VIII [828], R 02 a [615].

On living leaves of *Myrtus communis.* J. Skive ([18]/10 99!. New for Europe).

3103. **Cladosporium fulvum** Cooke, Syll. IV [363], Ldau VIII [829], Tomatbladenes Fløjlsplet (Lind 07 c & 09 d).

Massee (10 [470]) states that this disease is originated in the new world where it proves a dangerous enemy to tomatoes; I saw it rarely occuring on plants, grown in the open, but often on forced plants in hothouses and only on the foliage newer on the fruit.

Solanum lycopersicum, common near København and on the island Amager, also recorded from all the other parts of the country. The first Danish specimens were found [16]/6 1907 (Exs. Kab. & Bub. no 538).

3104. **Cladosporium cucumerinum** Ellis & Arthur, Syll. X [601], Ldau VIII [830], Syn: Scolicotrichum melophtorum Prill. & Delacr., Syll. X [699], Ldau VIII [798], Cladosporium cucumeris Frank, Z. f. Pf. vol. III [30], ? Chloridium polysporum (Wallr.) Sacc., Syll. IV [323], Ldau VIII [725], Macrosporium melophtorum (Prill. & Delacr.) Rostrup 93 k, 02 a [616], 04 l & o, 06 n; Agurkernes Gummiflod (Lind 08 c c. icon.), Lit: Reuter 06.

A true parasite and very noxious for the fruit of *Cucumis sativus* in the hothouses. Common, from May to September.

Polythrincium.

3105. **Polythrincium trifolii** Fries S. M. III [368], Syll. IV [350], Ldau VIII [834] c. icon., Syn: Dothidea trif. Fries S. V. [387], R 71 [61], Kløver-Skorpesvamp (R 99 c [127] & 02 a [510] c. icon.).

This pest is most commonly indicated as Phyllachora trifolii, although its supposed ascigerous stage is very seldom found (see Cooke, Grevillea XIII [93]).

Recorded on living leaves of *Trifolium fragiferum, repens, hybridum, pratense, medium, pallescens, resupinatum.*

Diplococcium.

3106. **Diplococcium resinae** (Cda.) Sacc., Syll. IV [374], Ldau VIII [840]. On resin on *Pinus austriaca.* J. Varde.

Epochnium.

3107. **Epochnium monilioides** Fries S. M. III [448], Syll. IV [375], Ldau VIII [843] c. icon., Syn: Monilia fructigena Schum. no 1604 non Fries. On decaying fruit. S. October (Schum.).

Dematiaceae—Phaeophragmiae.

Clasterosporium.

3108. **Clasterosporium scirpicolum** (Fuckel) Sacc., Syll. IV [393], Ldau IX [15].

On dead stems of *Scirpus lacustris.* S. Lystrup!.

3109. **Clasterosporium putrefasciens** (Fuckel) Sacc., Syll. IV [303], Ldau IX [15], Syn: Sporidesmium putr. Fuckel, Trichoderma brassicae Schum. no 1585, Helminthosporium rhizoctonum Dybdahl 77 [156] non Rbh., Runkelroe-Soddug, Bedens Branddug (R 93 d [136], 97 i, 02 a [474]), Bedens Sortskimmel (M. L. M. Oktober 08). Lit: R 93 d[137], 02 c [125].

Common on leaves, stems and fruit of many cultivated forms of *Beta.*

3110. **Clasterosporium carpophilum** (Lév.) Aderh., Ldau IX [16] c. icon., Syn: Helminthosporium carp. Lév., Syll. IV [410], Clasterosporium amygdalearum (Passer.) Sacc., Syll. IV [391], Helm.

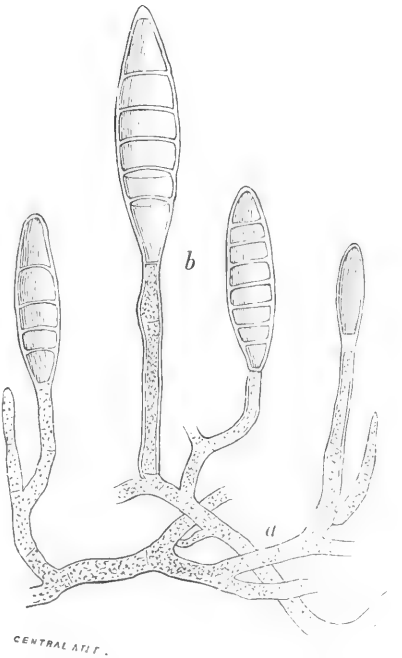


Fig. 38. Clasterosporium carpophilum. Mycelium and conidia. $\frac{600}{1}$. From R 02 a.

rhabdiferum Berk. & Br., Syll. IV[419], Helm. cerasorum Berl. & Vogl., Syll. X[611], Coryneum Beyerinckii Ouds., Syll. III [774], All. VII [640], Lit: Aderh. 01, R 93 o, 02 a [597—612] c. icon., 02 n, Lindau 08 [236].

On fruit of *Prunus persica*. F. Erholm (N. J. Jensen), Odense (Bredsted see R 88 i); Lang. Nedergaard (C. Henriksen see R 96 d); S. Valby. On twigs and leaves of *Prunus acida*. S. Fredriksdal (J. Larsen), Valby!; B. Allinge (Neger 06).

Ceratophorum.

3111. **Ceratophorum setosum** Kirchner 92 c. icon., Syll. XI [622], Ldau IX [24].

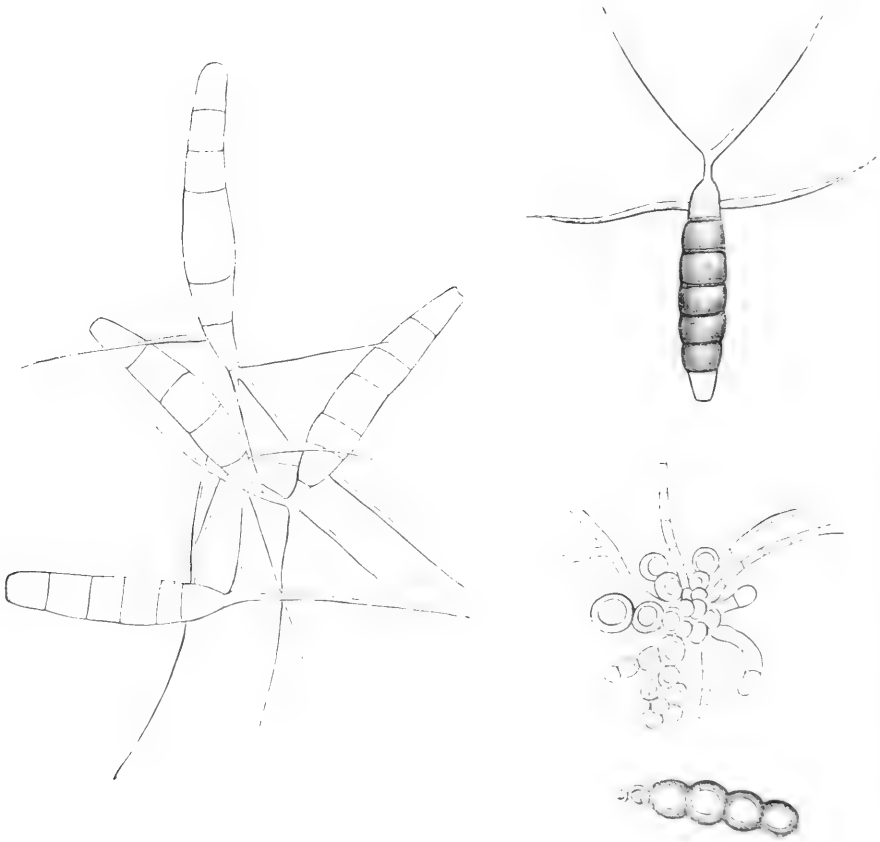


Fig. 39. Ceratophorum setosum.

1. Conidia. $\frac{180}{1}$. 2. A single conidium. $\frac{400}{1}$. 3. Hyphes and chlamydospores, cultivated on artificial substrat. $\frac{250}{1}$. 4. A series of chlamydospores. $\frac{300}{1}$.

From R 05 b.

On living leaves of *Cytisus laburnum* (hosp. nov.). J. Nørholm (29/9 03 see R 05 b 312 c. icon.).

Septonema.

3112. **Septonema secedens** Cda., Syll. IV 400, Ldau IX 28.
On bark of *Betula verrucosa*. S. Sorø (Wodschou).

Helminthosporium.

The ascigerous form of fructification corresponding to the forms of Helminthosporium is often to be found in the genus Pleospora see pag. 226.

3113. **Helminthosporium obliquum** Karsten, Syll. X 612.
On wood of *Pinus silvestris*. S. København. September.

3114. **Helminthosporium gramineum** Rabh., Syll. X 615, Ldau IX 34, Syn: Napicladium hordei R 88 a & 93 d 130 c. icon., Scolecotrichum hordei R 86 d 7, Byggets Branddug R 93 d 130, Byggets Stribesyge (R 99 c 91 & F. K. R. 01 c. icon.), Lit: R 02 a 607 c. icon., 05 e 359, M. L. M. June 11 etc.
Common on leaves and sheaths of *Hordeum sativum*.

3115. **Helminthosporium teres** Sacc., Syll. IV 412, Ldau IX 34, Syn: "Helm. gramineum" R 99 c 91, Byggets Bladpletsyge (R 99 c 91), Byggets Helminthosporiose (F. K. R. 01 212), Lit: R 02 a 610 c. icon.
Very common on living leaves of *Hordeum sativum*, June—October.

3116. **Helminthosporium avenae** (Briosi & Cavara) Eidam, Ldau IX 35, Syn: Helm. teres form. avenae Briosi & Cav., Havrens Helminthosporiose (F. K. R. 01), Lit: R 02 a 612.
On living leaves of *Avena sativa*, June—October.

3117. **Helminthosporium setariae** spec. nov. See tab. IX.
Maculis laete atro-brunneis, amphigenis, oblongis, immarginatis, subinde confluentibus, utrinque visibilis; caespitulis hypophyllis, conidiophoris erectis, cylindraceis, simplicibus, 2—4-septatis, non constrictis, deorsum incrassatis, sursum denticulatis, 72—110 μ × 7—8 μ, olivaceo-brunneis, apice pallidioribus. Conidiis acrogenis, oblongo-ellipticis, utrinque rotundatis, rectis vel inaequilateralibus, 8—9-septatis, non constrictis, olivaceo-bruneis, (44—) 72—83 μ × 16—18 μ, eguttulatis.
On living leaves of *Setaria viridis* f. italica. J. Studsgaard (22/9 09 M. L. M.).

3118. **Helminthosporium arundinaceum** (Cda.), Syn: Helmisporium ar. Cda., Napicladium ar. Sacc., Syll. IV 482, Ldau IX 73 c. icon., Lit: R 93 d 132, 02 a 612.
Common on leaves of *Arundo phragmites*, June—September.

3119. **Helminthosporium arbusculoides** Peck, Syll. IV [404].
Betula alba. F. Glorup. April.

3120. **Helminthosporium macrocarpum** Fries S. M. III [356], Syll. IV [412], Ldau IX [50].
On branches of *Ulmus*. J. Krabbesholm!; S. Charlottenlund (V. Sarauw). *Corylus avellana*. F. Einsiedelsborg (1815 Hofman-Bang). *Tilia europaea*. S. Fredriksdal (O. R.), København (O. R.). *Acer pseudoplatanus*. F. Klingstrup.

3121. **Helminthosporium velutinum** Fries S. M. III [359], Syll. IV [402], Ldau IX [37].
On twigs of *Corylus avellana*. J. Sødal!. On dung of mammals (Hansen 76 [340]).

3122. **Helminthosporium teretiusculum** Sacc. & Berl., Syll. IV [416], Ldau IX [56].
Hyphis 60 μ × 6 μ, 4-septatis; conidiis 65—68 μ × 10—12 μ, 9—12-septatis.
On wood of *Fagus silvatica*. S. Dyrehaven ($^{21}/_{3}$ 11!).

3123. **Helminthosporium fusiforme** Cda., Syll. IV [413], Ldau IX [51].
Hyphis longis, curvulis, atrofuscis, septatis, 4—5 μ crassis; conidiis fuligineis, ellipticis, apice rotundatis, basi pedicellatis, obtusis, 34—40 μ × 9—13 μ, 5—7-septatis, crasse tunicatis.
On wood of *Fagus silvatica*. S. Klampenborg ($^{10}/_{2}$ 11!), Haslev Orned!. *Corylus avellana*. S. Haslev Orned!.

3124. **Helminthosporium interseminatum** Berk. & Rav., Syll. IV [407], Ldau IX [41], Syn: Dendryphium nodulosum Sacc., Syll. IV [490].
Hyphis fuscis, longis, nodulosis, septatis, 4 μ crassis; conidiis utrinque obtusis, 3-septatis, ad sepimentis constrictis, 22—24 μ × 4—7 μ.
On dead stems of *Anthriscus silvester*. J. Stensbæk near Sinddal ($^{1}/_{8}$ 06!); F. Svenborg!.

3125. **Helminthosporium rhopaloides** Fresen., Syll. IV [420], Ldau IX [54] c. icon.
On dead stems of *Solanum tuberosum*. S. Prinsessestien ($^{31}/_{7}$ 09!).

Brachysporium.

3126. **Brachysporium Crepini** (West.) Sacc., Syll. IV [430], Ldau IX [64].
Ophioglossum vulgatum. Falst. Boto ($^{23}/_{7}$ 98 see R 99 a [273]).

3127. **Brachysporium flexuosum** (Cda.) Sacc., Syll. IV [429], Ldau IX [66].
Carex vulpina. L. Juellinge Kohave. July.

Cercospora.

Cercospora radiata corresp. to Mycosphaerella vulnerariae (see Fuckel).
— cerasella — — cerasella (see Aderh. 00).
— microsora — — millegrana (see Jaap Exs. no 317).
— carlinae — — affinis (Ldau IX [138]).
— thalictri — Leptosphaeria thalictri (see Bref. 91 [224]).

3128. **Cercospora elymi** Rostrup 99 a [276], Syll. XVI [1074], Ldau IX [87].
Maculis amphigenis, oblongis, fuscis; caespitulis hypophyllis, hyphis fuscis; conidiis cylindraceis vel sursum attenuatis, 30—40 μ × 3—4 μ, triseptatis. R.
On leaves of *Hordeum arenarium*. S. Tisvilde [29/6 98].

3129. **Cercospora paridis** Eriks., Syll. IV [476], Ldau IX [90], Syn: Cerc. paridis R 83 b, Cerc. majanthemi Fuckel var paridis Bäumler, Syll. X [654].
Parasitical on living leaves of *Paris quadrifolius*. J. Odden!, Sæby; S. Folehave.

3130. **Cercospora polygonati** Rostrup 05 b [314], Ldau IX [89].
Maculis pallidis, atropurpureo-marginatis, circularibus; caespitulis hypophyllis, minutissimis, numerosis, initio testaceis, dein fuscis, hyphis brevibus, erectis, brunneis; conidiis cylindricis, sursum attenuatis, hyalinis vel pallide fuscescentibus, septatis, 60—70 μ × 5—6 μ. R.
On living leaves of *Polygonatum multiflorum*. J. Baggesvogn Skov ([1/9 04]).

3131. **Cercospora majanthemi** Fuckel, Syll. IV [476], Ldau IX [89].
Majanthemum bifolium. J. Løgstør!, Buderupholm; F. Svenborg Storehave ([25/6 70]); S. Slagelse!.

3132. **Cercospora chenopodii** Fresen., Bubak 08 [28], Ldau IX [93 800].
Chenopodium album. J. Horsens Fjord!. *Chenopodium glaucum*. J. Aarhus!. *Chenopodium polyspermum*. J. Horsens ([1/9 01!]).

3133. **Cercospora dubia** (Riess) Wt., Bubak 08 [28], Ldau IX [93], Syn: Ramularia dubia Riess, Syll. IV [216] partim.
Atriplex patula. J. Aarhus!. *Atriplex littoralis*. J. Horsens Fjord!. *Atriplex calotheca*. S. Flaskekroen. *Blitum rubrum*. Amager ([31/7 97]).

3134. **Cercospora beticola** Sacc., Syll. IV [456], Ldau IX [94], R 93 d [137].
Common on living leaves of *Beta* cult.

3135. **Cercospora Bizzozeriana** Sacc. & Berl., Syll. X [619], Ldau IX [100].
Lepidium latifolium. Amager. August.

3136. **Cercospora Bloxami** Berk. & Br., Syll. IV [433], Ldau IX [98].
On leaves of *Brassica napus*. F. Ringe ([20]/9 97!).

3137. **Cercospora resedae** Fuckel, Syll. IV [435], Ldau IX [101], R 02 a [604].
Reseda odorata. J. Randers (H. C. Nielsen); S. Haveselskabets Have. *Reseda luteola* (hosp. nov.). B. Nexø (! Exs. Kab. & Bub. no 696).

3138. **Cercospora vitis** (Lév.) Sacc., Ldau IX [116] c. icon., Syn: Cerc. viticola (Ces.) Sacc., Syll. IV [458], Isariopsis clavispora (Berk. & Cooke) Sacc., Syll. IV [631], R 02 a [604].
Vitis vinifera. S. Kragerupgaard (E. Glæsel).

3139. **Cercospora myrti** Er. 85 [79] c. icon., Syll. IV [462], Ldau IX [123], R 01 h & 02 a [604].
Myrtus communis. J. Skive ([22]/11 07!); S. Fredensborg Slotshave (C. Larsen).

3140. **Cercospora violae** Sacc., Syll. IV [434], Ldau IX [121] c. icon.
Viola hirta. J. Dybdal near Aalborg ([22]/7 01!).

3141. **Cercospora microsora** Sacc., Syll. IV [459], Ldau IX [117] c. icon., Syn: Cercosp. tiliae Peck, R 02 a [604].
Very common on living leaves of *Tilia europaea*. Aug.—Octob.

3142. **Cercospora exitiosa** Sydow Myc. Germ. fasc. XI no 545 & Annal. Myc. vol. 4 [485].
It is the same fungus, which Rostrup called Pyrenochaeta pubescens R 99 a [267], 99 g, 02 a [570], Syll. XVI [893], All. VII [856]. I have (Lind 09 c) studied this fungus very frequently, but I am as yet not sure wether it is a Pyrenochaeta or not. I rather suppose it is a ramigerous form of Cercospora microsora, first producing Cercospora-conidia and later on pycnidia with pycnoconidia.
It is very common and very noxious in the nurseries on the bark of the young stems and branches of *Tilia platyphylla* and *intermedia;* recorded from all parts of the country. The first Danish specimens were found [6]/6 98 near Slagelse (H. Knudsen).

3143. **Cercospora malvarum** Sacc., Syll. IV [440], Ldau IX [119] c. icon.
On living stems and leaves of *Malva moschata*. J. Flade ([6]/7 03!), Dvergetved (V. S.).

3144. **Cercospora mercurialis** (Lasch) Passerini, Syll. IV [456], Ldau IX [113], Syn: Sphaerella merc. Lasch, Syll. I [537].
Mercurialis perennis. J. Horsens ([27]/8 01!); S. Ermelunden, Gauno!.

3145. **Cercospora campi-silii** Speg., Syll. IV [440], Ldau IX [115], Syn: Cerc. impatientis Bäumler, Syll. X [619], see v. Höhnel.
Impatiens nolitangere. F. Skaarup ([11]/7 83); S. Fiskbæk!.

3146. **Cercospora rhamni** Fuckel, Syll. IV [466], Ldau IX [115].
Rhamnus cathartica. F. Skaarup ([27]/9 79).

3147. **Cercospora radiata** Fuckel, Syll. IV [438], Ldau IX [110], R 02 a [604], Rundbælgens Pletsyge (M. L. M. October 10).
Anthyllis vulneraria, quite common. J., S., Møen.

3148. **Cercospora zebrina** Passerini, Syll. IV [437], Ldau IX [112].
Trifolium agrarium. S. Brede Bakke. *Trifolium alpestre.* F. Skaarup.

3149. **Cercospora melonis** Cooke, Syll. XVIII [598], Syn: Corynespora Mazei Güssow 06 c. icon., Coryn. melonis (Cooke) Ldau IX [805] c. icon., Agurkbladenes Rudeplet Lind 08 c c. icon.
On leaves of *Cucumis sativus* very common (Exs. Kab. & Bub. no 545).

3150. **Cercospora apii** Fres., Syll. IV [442], Ldau IX [123], R 02 a [604].
Daucus carota. S. Lyngby (K. H.). *Petroselinum sativum.* B. Nexø (R 06 dd [379]).

3151. **Cercospora periclymeni** Wt., Syll. IV [468], Ldau IX [134].
Lonicera periclymenum. B. Almindingen. May.

3152. **Cercospora opuli** (Fuckel) v. Höhnel, Ldau IX [136], Syn: Cerc. penicillata Sacc., Syll. IV [468].
Viburnum opulus. J. Dronninglund!, Barritskov!; F. Ravnholt (! [24]/8 98).

3153. **Cercospora carlinae** Sacc., Syll. IV [445], Ldau IX [138].
Carlina vulgaris. J. Fredrikshavn!, Tannishus!; F. Kirkeby ([19]/7 83).

3154. **Cercospora ferruginea** Fuckel, Syll. IV [444], Ldau IX [139].
Artemisia vulgaris. F. Dalum (Jak. Lge), Ringe!, Skaarup ([29]/10 76), Svenborg!; S. Lyngby (M. L. M.); L. Sjørup.

3155. **Cercospora fulvescens** Sacc., Syll. IV [445], Ldau IX [140].
Solidago virgaurea. J. Marselisborg; B. Almindingen (R 06 dd).

Heterosporium.

3156. **Heterosporium hordei** Bubak, Syll. XVIII [587], Ldau IX [76].
On leaves of *Hordeum sativum hibernum.* S. Lyngby (! [25]/10 10 see M. L. M. October 10).

3157. **Heterosporium ossifragi** (Rostrup)!, Syn: Napicladium oss. R 01 n [319], Syll. XVIII [586], Ldau IX [78], Heterosporium Magnusianum Jaap 02 [346] & 05 [98].
On leaves of *Narthecium ossifragum.* J. Gaardbogaard (O. R.), Skive!, Undallslund (Gad [13]/9 85), Utoft Plantage etc.

3158. **Heterosporium ornithogali** Klotsch, Syll. IV [480], Ldau IX [77].
On leaves of *Ornithogalum nutans.* J. Beder.

3159. **Heterosporium allii** Ellis & Mart., Syll. IV [480], Ldau IX [78], R 02 a [606].

Allium ascalonicum & sativum. S. Landbohøjskolens Have. *Allium schoenoprasum.* S. Husum (E. Holmberg see R 02 l).

3160. **Heterosporium gracile** (Wallr.) Sacc., Syll. IV [480], Ldau IX [79], R 95 d & 02 a [606].

Gladiolus sp. J. Vejle (W. Christensen). *Gladiolus natalensis.* S. Sorø (Kjellerup). *Iris spuria.* Saltholm (H. M.). *Iris propendens.* S. København (O. R.). *Iris germanica.* J. Viborg; S. Vilvorde, Landbohøjskolen, Hæsede. *Iris plicata.* S. Landbohøjskolens Have.

3161. **Heterosporium proteus** Starb., Syll. XIV [1088], Ldau IX [80].

On leaves of *Quercus robur.* J. Napstjert!, Stensbæk!, Viborg ($^{17}/_{9}$ 05!).

3162. **Heterosporium echinulatum** (Berk.) Cooke, Syll. IV [481], Ldau IX [81] c. icon., R 88 j & 02 a [606].

On leaves and stems of *Dianthus caryophyllus & barbatus,* common from Sept. to May.

3163. **Heterosporium laburni** Ouds., Syll. X [657], Ldau IX [84].

On leaves of *Cytisus laburnum.* S. Fredriksdal ($^{3}/_{2}$ 07 see F. & W. 09 [316]).

3164. **Heterosporium fraxini** F. & W. 07 [256] c. icon., Ldau IX [798].

Very common on fruit of *Fraxinus excelsior.*

Spondylocladium.

3165. **Spondylocladium atrovirens** Harz, Syll. IV [483], Ldau IX [142], Syn: Spon. abietinum (Zukal) Sacc., Syll. X [662].

On tubers of *Solanum tuberosum.* S. København (Dec. 04 see R 05 e [368]).

Acrothecium.

3166. **Acrothecium obovatum** Cooke, Syll. IV [484], Ldau IX [146].

On wood. S. Tokkekøb Hegn, Dyrehaven (April 91 O. R.).

3167. **Acrothecium delicatulum** Berk. & Br., Syll. IV [485], Ldau IX [148].

On wood of *Fagus silvatica.* S. Lyngby ($^{3}/_{3}$ 11!), Klampenborg!.

Dendryphium.

3168. **Dendryphium comosum** Wallr., Syll. IV [487], Ldau IX [152].

Urtica dioeca. F. Klingstrup. Nov.

3169. **Dendryphium toruloides** (Fres.) Sacc., Syll. IV [489], Ldau IX [154] c. icon.

On dead stems of *Urtica dioeca* S. Lyngby Mose!. *Cirsium arvense.* S. Dyrehaven (O. R.). *Lappa* sp. S. Fortunen (Nov. 88 O. R.).

Sporochisma.

3170. **Sporochisma mirabile** Berk. & Br., Syll. IV [486], Ldau IX [159] c. icon., ? Syn: Dematium ciliare Schum. no 2167 (still preserved in Schumacher's herbarium here called Dematium nigrum).
On wood of *Fagus silvatica.* S. Klampenborg ($^{10}/_{2}$ 11!).

Dematiaceae—Phaeodictyae.

Coniothecium.

3171. **Coniothecium effusum** Corda, Syll. IV [508], Ldau IX [167].
On pastebord. S. København, Pesthuset.

3172. **Coniothecium charticola** Fuckel, Syll. IV [513], Ldau IX [173].
On paper. S. Geelskov. (Nov. 88 O. R.).

3173. **Coniothecium austriacum** Thümen, Syll. IV [512], Ldau IX [170].
Pinus montana. J. Viborg, Fredrikshaab Plantage; S. Tisvilde, Ellinge Plantage. *Picea rubra.* S. Landbohøjskolens Have.

3174. **Coniothecium complanatum** (Fries) Sacc., Syll. IV [509], Ldau IX [166], Syn: Didymosporium comp. Nees, Fries S. M. III [486].
Salix alba. F. Skaarup; S. Damhussøen. *Salix caprea,* common, July—Febr. *Salix cinerea.* F. Hundrup (O. R.), Broholm. *Salix viminalis.* S. Avderød, Gammelmose.

3175. **Coniothecium amentacearum** Corda, Syll. IV [509], Ldau IX [172].
Salix caprea. J. Nebsager (July 91 O. R.). *Salix viminalis.* J. Tværsted Plantage; S. København (O. R.).

3176. **Coniothecium applanatum** Sacc., Syll. IV [508], Ldau IX [166] c. icon.
On wood of *Salix cinerea.* S. Ravnholt Hegn (May 91 O. R.).

3177. **Coniothecium betulinum** Corda, Syll. IV [510], Ldau IX [173].
On twigs of *Betula alba.* S. Ruderhegn (O. R.), Uggerløse; B. Rønne.

3178. **Coniothecium phyllophilum** Desm., Syll. IV [512], Ldau IX [168].
Lonicera tatarica. S. Jægerspris (Gad).

Speira.

3179. **Speira oblonga** Fuckel, Syll. IV [515], Ldau IX [200].
On wood of *Fagus silvatica.* J. September.

3180. **Speira toruloides** Corda, Syll. IV [514], Ldau IX [197].
On wood. S. Hellebæk (O. R.), Dyrehaven (O. R.). On wood of *Populus*. F. Skaarup. *Fraxinus excelsior*. S. Dronninggaard.

3181. **Speira cohaerens** Preuss, Syll. IV [515], Ldau IX [200].
On dead branches of *Prunus padus*. F. Klingstrup. April.

Tetraploa.

3182. **Tetraploa aristata** Berk. & Br., Syll. IV [516], Ldau IX [202] c. icon.
On straw. S. Lyngby Mose (April 89 O. R.).

Sporodesmium.

3183. **Sporodesmium chartarum** Berk. & Cooke, Syll. IV [507].
On paper. S. Landbohøjskolen. March.

3184. **Sporodesmium ignobile** Karsten, Syll. IV [506].
On dead stems of *Asparagus officinalis* ([15]/2 03).

3185. **Sporodesmium myrianum** Desm., Syll. IV [506], Ldau IX [181].
Calamagrostis arenaria. J. Skagen (July 89 O. R.). *Triticum junceum*. J. Tversted Klitter!.

3186. **Sporodesmium polymorphum** Corda, Syll. IV [501], Ldau IX [218].
Alnus glutinosa. J. Gaardbogaard (July. Jørgen Larsen).

Mystrosporium.

3187. **Mystrosporium adustum** Massee, Gardn. Chron. 1899 I [412] c. icon. & Massee 10 [505].
Iris Bakeriana & *reticulata*. S. Østerbro ([22]/10 01 M. Lorenzen).

3188. **Mystrosporium polytrichum** Cooke, Syll. IV [541], Ldau IX [222].
On dead stems of *Solanum tuberosum*.

Macrosporium.

3189. **Macrosporium chartarum** Peck, Syll. IV [539].
Old paper. S. Kobenhavn (July 92 O. R.), Valby!.

3190. **Macrosporium sarcinulae** Berk., Syll. IV [524], Ldau IX [228].
On heads of *Typha angustifolia*. L. Lidsø (abundantly Exc. [4]/8 84). On fading leaves of *Cucumis melo* (R 92 n).

3191. **Macrosporium parasiticum** Thümen, Syll. IV [537], Ldau IX [233].

On leaves and stems of Allium, especially when affected by Peronospora see R 02 a [617].

Allium cepa. S. Sorø (Gram), Landbohøjskolens Have; Falst. Stubbekøbing (Aug. 80).

3192. **Macrosporium convallariae** Fries S. M. III [373], Syll. IV [538], Ldau IX [234], Syn: Puccinia conv. Schum. no 1583, Fl. D. tab. 2279 fig. 3.

On leaves of *Polygonatum multiflorum*. September. Only recorded by Schumacher.

3193. **Macrosporium nobile** Vize, Syll. IV [529], Ldau IX [236], R 02 a [617].

Dianthus barbatus & *caryophyllus*. S. Landbohøjskolens Have.

3194. **Macrosporium saponariae** Peck, Syll. IV [529], Ldau IX [237].

On dead leaves of *Saponaria officinalis*. S. Lyngby (Sept. K. H.).

3195. **Macrosporium cladosporioides** Desm., Syll. IV [524], Ldau IX [227].

On dead leaves of *Beta sativa*. S. Lyngby. September.

3196. **Macrosporium cheiranthi** Fries S. M. III [374], Syll. IV [525], Ldau IX [240].

On living leaves of *Matthiola annua* and *Cheiranthus cheiri*. F. Odense (May 94 V. Petersen see R 94 j).

3197. **Macrosporium uvarum** Thümen, Syll. IV [535], Ldau IX [245].

On fruit of *Vitis vinifera*. Lang. Tranekjær ([31]/10 00 Gylling).

3198. **Macrosporium scyphophori** (Cooke & Hark.) Rostrup in herb., Syn: Septosporium scyph. C. & H., Syll. IV [544].

On bark of *Eucalyptus globulus*. S. Botanisk Have (Dec. E. W.).

3199. **Macrosporium pelargonii** Ell. & Ev., Syll. XI [635], Ldau IX [244], R 02 a [617], 03 f.

Pelargonium cult. F. Odense; S. Vanløse; Falst. Nykøbing (C. H. O.).

3200. **Macrosporium globuliferum** Vgr., Syll. XIV [1096], Ldau IX [243].

On dead stems of *Lotus corniculatus*. J. Skive ([29]/5 01! see R 04 b [407]).

3201. **Macrosporium commune** Rbh., Syll. IV [524], Ldau IX [225] c. icon.

Quite common on leaves and stems of many herbacious plants.

3202. **Macrosporium tomato** Cooke, Syll. IV [534], Ldau IX [249], R 02 a [616].

On fruit of *Solanum lycopersicum*. S. København (R 86 i. New for Europe).

3203. **Macrosporium arnicae** Rostrup 05 b [315], Ldau IX [250].

Maculis foliicolis, amphigenis, rotundatis, brunneis, dense concen-

trice zonatis; conidiis sarciniformibus, fuscis, muralidivisis, 36—40 μ l., 30 μ cr.

On living leaves of *Arnica montana*. F. Nyborg.

3204. **Macrosporium cirsii** Ldau IX [250].

On living leaves of *Cirsium arvense*. J. Viborg (Aug. 02!).

Alternaria.

Alternaria is very closely connected with Clasterosporium, Sporodesmium and Helminthosporium and is like those form-genera regarded to represent the conidial fructifications of Leptosphaeria and other Sphaeriaceae, it is for instance supposed, that

Alternaria brassicae corresponds to Leptosphaeria napi (Ldau 08 [254]).
— trichostoma — Pleospora trichostoma.

3205. **Alternaria tenuis** (Fries) Nees, Syll. IV [545], Ldau IX [262] c. icon., Syn: Torula tenuis Fries S. M. III [500], "Helminthosporium gramineum" Ørsted 63 c [163] c. icon.

Common on moist straw of *Avena, Triticum, Hordeum* (M. L. M. Octob. 10) etc. also on *Medicago sativa* (see M. L. M. 07).

3206. **Alternaria brassicae** (Berk.) Sacc., Syll. IV [546], Ldau IX [258] c. icon., Syn: Sporidesmium exitiosum Kühn, Polydesmus ex. Kühn, Syll. IV [402], Skulpesvamp (R 02 a [472], M. L. M. Oktob. 09), Rapsens Branddug (R 93 d [135]).

Very common and must be considered a serious malady for all species of *Brassica* cultivated for seed-production.

3207. **Alternaria brassicae** (Berk.) Sacc., var **dauci** (Kühn) Ldau IX [260], Syn: Macrosporium dauci (Kühn) Rostrup 88 a [385], 00 a, 02 a [617], Gulerodens Branddug (R 93 d [132]).

Common on cultivated *Daucus carota*.

Dematiaceae—Phaeohelicosporae.

Helicosporium.

3208. **Helicosporium pulvinatum** Fries S. M. III [354], Syll. IV [556], Ldau IX [272] c. icon.

On wood of *Quercus robur*. S. Fortunen. May.

3209. **Helicosporium Fuckelii** Fresenius, Syll. IV [558], Ldau IX [274]. Saccardo's translation of Fresenius's description in Beiträge zur

Mykologie is very incorrect. Fresenius scribes: "Sporen nicht dicht aneinander liegend, leicht aufrollbar" and Sacc. translates: "conidiis arctiuscule convolutis. Fres. scribes: "Sporen hyalin $^{1}/_{100}$—$^{1}/_{66}$ mm gross" and Sacc. translates: "Conidiis 10—15 μ cr.". The conidia are indeed 1,5 μ in width and c. 80 μ in length, it is the spirals which measure 15—17 μ in diameter. The conidiophores are olivaceous and measure 200—500 μ × 3—4 μ.

On bark of *Alnus glutinosa*. S. Ruderhegn ($^{27}/_{5}$ 09!).

Dematiaceae—Phaeostauroṣporae.

Triposporium.

3210. **Triposporium elegans** Corda, Syll. IV [554], Ldau IX [284] c. icon

On branches of *Corylus avellana*. S. Lyngby Mose ($^{4}/_{1}$ 11!).

3211. **Triposporium myrti** spec. nov. See tab. IX.

Caespitulis epiphyllis, nigris, late effusis non limitatis, crustum tenuissimum saepe totum folium occupantem et ab eo facile solubilem formantibus; hyphis sterilibus pallide brunneis, pluriseptatis, c. 4 μ crassis, hyphis fertilibus erectis, fuscis, c. 6 μ crassis, septatis, ad septa constrictis; conidiis 4—6 radiatis, radiis rectis, 3-septatis, ad septa valde constrictis, basi 8 μ crassis, olivaceo-fuscis, apice 4 μ crassis dilutioribus.

On living leaves of an spec. of *Myrtaceae*. S. Haveselskabets Have ($^{5}/_{11}$ 84).

Stilbaceae.

Hyalostilbaceae.

The ascigerous fructifications, corresponding to the form-species of Stilbaceae are chiefly to be sought in the Hypocreales, for instance corresponds

Stilbella cinnabarina	to	Megalonectria pseudotrichia (see v. Höhnel).
— aurantiaca	-	Sphaerostilbe aurantiaca (Tul. Carp. I).
Atractium flammeum	-	— flammea (—).
Isaria spp.	-	Cordyceps spp. see pag. 176.
— brachiata	-	Eleutheromyces subulatus (see Fuckel).

Stilbella (Syn: Stilbum Tode).

3212. **Stilbella Rehmiana** (Rbh.) Ldau IX [294], Syn: Stilbum Rehmianum Rbh., Syll. IV [565] & X [682].

Is the conidial stage of Dermatea eucrita.

On trunks of *Pinus strobus*. J. Silkeborg ([16]/3 07!).

3213. **Stilbella turbinata** (Fries) Ldau IX [299], Syn: Stilbum turb. Tode, Fries S. M. III [304], Syll. IV [573].

On stems of *Cactaceae*. S. Botanisk Have. June 88.

3214. **Stilbella fimetaria** (Fries) Lindau IX [301], Syn: Peziza fim. Fries S. M. II [157], Stilbum fim. (Pers.) Berk. & Br., Syll. IV [572].

On dung of *Oves aries*. J. Ribe. On dung of *Cervus*. S. Dyrehaven (Hansen 76 [227]).

Tilachlidium.

3215. **Tilachlidium tomentosum** (Fries) Lindau IX [306], Syn: Stilbum tom. Schrader, Fries S. M. III [301].

On *Trichia* sp. S. Herlufsholm (1882 O. R.).

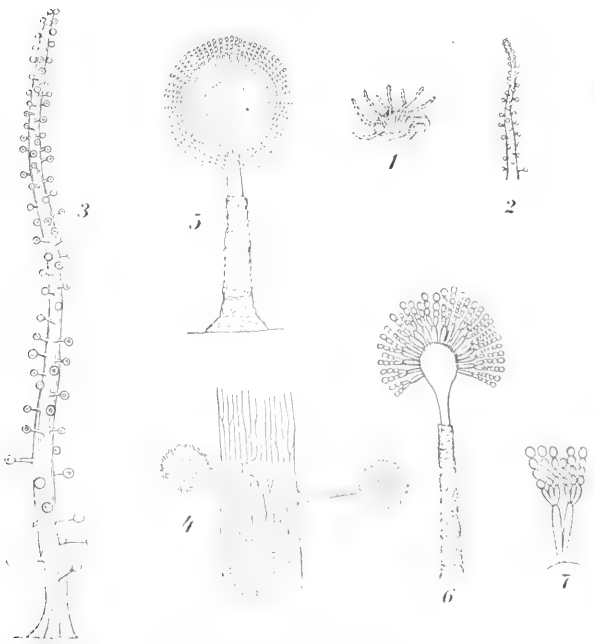


Fig. 40. Gibellula pulchra.
1. Habitus $\frac{1}{1}$. 2. A single stroma, enlarged. 3. The same $\frac{20}{1}$. 4. Part of the same $\frac{100}{1}$. 5 & 6. Conidiophores and conidia $\frac{360}{1}$. 7. Part of the same. $\frac{700}{1}$. From R 93 b.

Gibellula.

3216. **Gibellula pulchra** (Sacc.) Cavara, Syll. XI [643], Ldau IX [311] c. icon., Syn: Corethropsis pulchra Sacc., Syll. IV [62], Isaria aspergilliformis R 93 b [92] c. icon., Syll. XI [641].

Stromataaraneicola, gregaria, filiformia, pallida, undique hyphis numerosis, 1—2-septatis, usque ad 130 µ longis, apice inflatis vestita; conidia catenulata, globosa, 2—2,5 µ cr., basidiis verticillato-ramosis suffulta. R.

On spiders. S. Ruderhegn, Sørup Hegn (O. R.); L. Bøllesminde ($^{23}/_{7}$ 79), Søllested; Falst. Corselitze Skov.

Pirobasidium.

3217. **Pirobasidium sarcoides** v. Höhnel, Ldau IX [811].

Is the conidial fructification of Coryne sarcoides (see v. Höhnel 02) and is found on the same places.

Isaria.

3218. **Isaria farinosa** Fries S. M. III [271], Syll. IV [584], Ldau IX [321], Syn: Is. crassa Pers., Syll. IV [584], Ldau IX [321], Is. truncata Pers., Syll. IV [584], Ldau IX [321], R 93 b [89], Is. corallina Fries S. M. III [273], Syll. IV [585], Ldau IX [322], Is. velutipes Link, Syll. IV [585], Ldau IX [322], Is. prolifera R, Is. subulata R, Is. minima R 93 b [89], Ramaria farinosa Holm. 1781 & 1791 [94] tab. 7, Den pudrede eller melede Greensvamp (Holmsk.), Melet Kølledrager (Viborg 1793 [269]), Melet Fnugkølle (H. 37 [894]).

On dead insects, common July—Nov. Recorded from J., F., S., L. etc.

3219. **Isaria sphecophila** Fries S. M. III [275], Syll. IV [586], Ldau IX [323], R 93 b [91].

Vespa vulgaris. S. Herlufsholm (July 81 O. R.).

3220. **Isaria strigosa** Fries S. M. III [274], Syll. IV [585], Ldau IX [322].

In an insect upon the leaves of Aspidium. S. Nørager (Sept. 84 E. Moltke).

3221. **Isaria arachnophila** Fries S. M. III [273], Syll. IV [587], Ldau IX [325].

On spiders. J. Bruddal†; F. Nordskov!, Vejstrup Aaskov ($^{2}/_{11}$ 62); S. Geelskov; L. Stensgaard, Søllested.

3222. **Isaria sulphurea** Fiedler, Syll. IV [588], Ldau IX [327].

On the ground. S. København (O. R.).

3223. **Isaria intricata** Fries S. M. III [278], Syll. IV [589], Ldau IX [314].

On decaying *Agaricaceae*. S. Lerchenborg (Nov. 84 C. Pedersen).

3224. **Isaria filiformis** Wallr., Syll. IV [589], Ldau IX [315].

On decaying *Agaricaceae*. S. Bregentved ($^{13}/_{10}$ 89 Rützou).

3225. **Isaria fuciformis** Berk., Syll. IV [595].

Hordeum arenarium (hosp. nov.). J. Sæby (Aug. 93 O. R. see R 95 a [213]).

3226. **Isaria brachiata** Fries S. M. III [279], Syll. IV [589], Ldau IX [314] c. icon., Schum. no 2160, Fl. D. tab. 2280 fig. 3, Korsarmet Fnugkølle (H. 37 [895]).

Very common on decaying stems and petioles in hothouses and also in the forest.

Coremium.

3227. **Coremium coprophilum** Berk. & Cooke, Syll. IV [582].
S. Geelskov ([23]/9 88 Børgesen see R 89 h).

Phaeostilbaceae.

Graphium.

3228. **Graphium rigidum** (Fries) Sacc., Syll. IV [610], Ldau IX [351], Syn: Stilbum rig. Pers., Fries S. M. III [302], Schum. no 1607, Fl. D. tab. 2280 fig. 2, Stiv Levrehoved (H. 37 [896]).
On wood and fallen branches, Sept.—Dec. S. Charlottenlund (O. R.).

3229. **Graphium pallescens** (Fuckel) Magnus, Syll. XVIII [649], Ldau IX [361], Syn: Harpographium pal. Magn., Stysanus pal. Fuckel, Syll. X [697], Ramularia stellariae Rbh., Ovularia stell. (Rbh.) Sacc., Syll. X [542], Ldau VIII [239].
On living and fading leaves of *Stellaria nemorum*, common July—Sept. *Stellaria holostea* (hosp. nov.). J. Viborg ([27]/8 06!).

3230. **Graphium bicolor** (Fries) Sacc., Syll. IV [618], Ldau IX [366], Syn: Stilbum bic. Pers., Fries S. M. III [303], Stilbum ventricosum Schum. no 1609, Fl. D. tab. 2280 fig. 1, Tvefarvet Levrehoved (H. 37 [896]).
On dung of cows. S. (Schum.).

Stysanus.

3231. **Stysanus stemonitis** Fries S. M. III [280], Syll. IV [621], Ldau IX [376] c. icon.
Common on decaying parts of plants, also on dung of mammals (Hansen 76 [340]), and on *Sclerotium clavus*.

3232. **Stysanus macrocarpus** Karsten, Syll. IV [622], Ldau IX [382].
On branches of *Corylus avellana*. L. Stensgaard ([9]/8 98 see R 99 a [273]).

3233. **Stysanus veronicae** Passerini, Syll. IV [623], Ldau IX [385].
A true parasite on living leaves of *Veronica longifolia*. F. Skaarup ([30]/9 79), Faaborg!; S. Haveselskabets Have (see R 99 a [273]).

Graphiothecium.

3234. **Graphiothecium pusillum** (Fuckel) Sacc., Syll, IV [625], Ldau IX [388].

Malachium aquaticum. J. Vejledalen (July 93 see R 95 a [213]). *Stellaria graminea.* S. Eskildstrup.

Isariopsis.

3235. **Isariopsis alborosella** (Desm.) Sacc., Syll. IV [630], Ldau IX [395] c. icon.

Common, June—October on leaves of *Stellaria palustris* & *nemorum.*

Tuberculariaceae.

The form-species of Tuberculariaceae correspond very often to species of Hypocreales, so

Tubercularia, Dendrodochium and Illosporium correspond to Nectria see p. 170 or to Gibberella see p. 173.

Microcera massariae	corresp.	Calonectria massariae.
— coccophila	—	Sphaerostilbe coccophila (see Tulasne).
Pionnotes sanguinea	—	— fusca (see Fuckel).

Another part of Tuberculariaceae represent the conidial fructifications of species of Discomycetes (especially Helotiaceae and Mollisiaceae) viz:

Cylindrocolla urticae	corresp.	Calloria fusarioides (Bref. 91 [305]).
Hymenula stictoidea	—	Naevia pallida (Bom. Rous. Sacc.).
— riccia	—	Tapesia riccia.
— vulgaris	—	Helotium herbarum (Fuckel & Jaap).
— equiseti	—	Phialea equisetina (Ldau IX [414]).
— fumosellina	—	— fumosellina (Starbäck).
Endoconidium temulentum	—	— temulenta.
Sphaeridium candidum	—	Pezizella pulchella.
— flavovirens	—	Cyathicula petiolorum (Fuckel).
— vitellinum	—	Lachnum fuscescens (Fuckel).

Mucedineae—Amerosporae.

Aegerita.

3236. **Aegerita candida** Fries S. M. III [220], Syll. IV [661], Ldau IX [405].

On timber in a hothous. S. Hellebæk (Børgesen).

3237. **Aegerita torulosa** (Bon.) Sacc., Syll. IV [662], Ldau IX [407] c. icon.

On fallen twigs of *Alnus glutinosa*. S. Sorgenfri ([15]/[11] 07!), Gammelmosen (! Exs. Vgr. no 1546).

Tuberculina.

3238. **Tuberculina sanguinea** (Fries)!, Syn: Sclerotium sang. Fries S. M. II [255], Tubercularia persicina Dittmar, Fries S. M. III [466], Tuberculina pers. Sacc., Syll. IV [653], Ldau IX [409] c. icon., Sclerotium circaeae Schum. no 1391, Fries S. M. II [256], Steffensurtens Beensvamp (H. 37 [850]), Lit: Tub. 02 c.

Parasitical in many forms of cluster-cups for instance: *Aecidium grossulariae, convallariae, catharticae, thalictri flavi, tussilaginis, adoxae, circaeae, cirsii, lactucae, berberidis, lycopsidis, periclymeni, allii, glaucis* (Thüm. Myc. no 2281), *sonchi, ari,* also on *Caeoma mercurialis, Caeoma euonymi, Roestelia cornuta, Puccinia suaveolens* (st. II), *Pucc. Karstenii* (st. III).

3239. **Tuberculina maxima** Rostrup 90 e [160], Syll. IV [710], Ldau IX [410], Lit: Tub. 02 c, Liro 07 [49]. See tab. IX.

Parasitical in *Peridermium strobi*. J. Hinnerup; F. Erholm; S. Tisvilde Hegn (Helms); B. Sandflugtskoven (Exc. [17]/[5] 1911). *Peridermium Cornui*. S. Tisvilde (Helms), Hornbæk Plantage, Geelskov. B. Blykobbe (Sept. 90 see R 06 dd, again Exc. [17]/[5] 11).

Hymenula.

3240. **Hymenula equiseti** Lib., Syll. IV [718], Ldau IX [413].

Equisetum fluviatile. J. Rødding Sø!; F. Skaarup. *Equisetum arvense*. J. Viborg!.

3241. **Hymenula rubella** Fries, Syll. IV [670], Ldau IX [416] c. icon.

Arundo, Juncus etc. S. Gammelmose (R 06 cc [357]). *Typha latifolia*. Thorseng Bukkehave.

3242. **Hymenula macrocarpa** Sacc., Syll. IV [667], Ldau IX [418].

On stems of *Roripa lapathifolia*. S. Charlottenlund (April 03 O. R.).

Tubercularia.

3243. **Tubercularia vulgaris** Fries S. M. III [464], Syll. IV [638], Ldau IX [421] c. icon., Schum. no 1368, Fl. D. tab. 2339 fig. 1 & tab. 1294 fig. 2, Syn: Lichen agaricus caespitosus Müller, Fl. D. tab. 840 fig. 2, Tubercularia artemisiae Schum. no 1371, Tub. pruni Schum. no 1373, Tub. populi Schum. no 1375, Tub. cerasi Schum. no 1374, Tub. fasciculare Schum. no 1369, Sphaeria tremelloides Schum. no 1337, Fl. D. tab. 1858 fig. 2 (according to specimens in Schumacher's herbarium), Hypocrea trem. Fries S. M. II [335], Syll. II [335], Wt. II [139].

Its ascigerous fructification is Nectria cinnabarina.
Very common, especially from Nov. to May on stems and branches.

3244. **Tubercularia brassicae** Libert, Syll. IV [648], Ldau IX [435], Syn: Tub. minuta Schum. no 1372, Fl. D. tab. 2339 fig. 2.
Its ascigerous fructification is supposed to were Nectria brassicae (see R 89 i [235]).
Brassica oleracea. S. København (O. R. & Børgesen).

3245. **Tubercularia liceoides** Fries, Syll. IV [640], Ldau IX [427].
On dead branches of *Negundo californica*. S. Frederiksberg (March 05 O. R.).

3246. **Tubercularia Kmetiana** Bäumler, Syll. X [704], Ldau IX [440].
On twigs of *Lycium halimifolium*. S. Charlottenlund!, Skelskør!; B. Hasle!, Rønne ([25]/9 09!).

3247. **Tubercularia olivacea** Rostrup 85 g [149], Ldau IX [441], Syn: Tub. sulcata Schum. no 1376 non Tode, Fl. D. tab. 2338 fig. 2.
Tubercularia sulcata, disco hemisphaerico subdepresso, ruguloso, cinereo-fusco; stipite subelongato cylindrico crasso, longitudinaliter reticulatim sulcato fusco-atro.
In ligno dejecto putrido. S. (Schum.).

Dendrodochium.

3248. **Dendrodochium epistroma** Höhnel, Ldau IX [444].
Is is closely connected with Dendrod. betulinum Rostrup 92 a [630] (see v. Höhn. 09 [424]).
Diatrypella favacea. J. Marselisborg (1906 F. & W. 09 [316]).

Fusicolla.

3249. **Fusicolla betae** Bonorden, Syll. IV [665], Ldau IX [454] c. icon., Syn: Fusarium betae (Desm.) R 02 a, Bedens Slimskimmel (R 93 d [141]).
Common on roots of *Beta sativa* in storage.

Illosporium.

3250. **Illosporium roseum** Fries S. M. III [258], Syn: Palmella rosea Lyngbye 19 [207], Lichen roseus Vahl, Fl. D. tab. 1243 fig. 1, Sclerotium persicolor Schum. no 1386 b.
Physcia stellaris. J. Palstrup & Sneptrup (D. B. 69 [191]); F. Skaarup; L. Stensgaard.

3251. **Illosporium carneum** Fries S. M. III [259], Syll. IV [657], Ldau IX [465], Syn: Sclerotium granulatum Schum. no 1386.
On *lichens* upon the trunks of *Populus*. J. Viborg!. December.

3252. **Illosporium corallinum** Robert, Syll. IV [657], Ldau IX [465].
On *Physcia stellaris*. F. Tangegaard. Sept. 88 (Sehested).

3253. **Illosporium coccineum** Fries S. M. III [259], Syll. IV [657], Ldau IX [464].
On *Pertusaria*. F. Skaarup. Dec.

Sphaeridium.

3254. **Sphaeridium vitellinum** Fres., Syll. IV [675], Ldau IX [475].
On fallen leaves of *Fagus silvatica*. S. Ruderhegn. Sept.

Cylindrocolla.

3255. **Cylindrocolla urticae** (Fries) Bon., Syll. IV [674], Ldau IX [478] c. icon., Syn: Dacrymyces urt. Fries S. M. II [231], Tremella urt. Pers., Schum. no 2151, Neldens Taaresvamp (H. 37 [849]).
Its ascigerous fructification is Calloria fusarioides.
On dead stems of *Urtica dioeca*, common, Dec.—May.

Volutella.

3256. **Volutella ciliata** Fries S. M. III [467], Syll. IV [682], Ldau IX [483] c. icon.
Common on many different parts of plants for instance: *Sclerotium clavus*, stems of *Equisetum, Helleborus, Beta, Aster*, roots of *Trifolium* and *Medicago* etc.

3257. **Volutella gilva** (Fries) Sacc., Syll. IV [686], Ldau IX [489], Syn: Psilonia gilva Pers., Fries S. M. III [451].
On dead stems of herbacious plants for instance: *Anthriscus, Cynoglossum* etc. S. Ordrup Mose (May 03 O. R.), Kirkesaabye. April!.

3258. **Volutella nivea** Sacc., Syll. IV [685], Ldau IX [492].
On fallen twigs of *Fagus silvatica*. S. Tokkekøb Hegn ([24]/10 97).

3259. **Volutella buxi** (Corda) Berk., Syll. IV [685], Ldau IX [493].
On the under surface of dead leaves of *Buxus sempervirens*. S. København ([30]/5 07!).

Periola.

3260. **Periola tomentosa** Fries S. M. II [267], Syll. IV [681], Ldau IX [499].
On tubers of *Solanum tuberosum*. F. Skaarup; S. Storeklint (Th. Leth), Vejenbrød (R. Larsen).

3261. **Periola hirsuta** Fries S. M. II [266], Syll. IV [681], Ldau IX [498] c. icon., Syn: Sclerotium hirs. Schum. no 1388, Fl. D. tab. 1320, Laadden Duunkugle (H. 37 [851]).
"In vasis exsiccatis trunci fagi sylvaticae invenit cl. Schumacher" (Fl. D.).

Periola pubescens Fries S. M. II [267], Syll. IV [681], Ldau IX [498] c. icon., Syn: Sclerotium album Schum. no 1384, Duunhaaret Duunkugle (H. 37 [851]).

S. "Hymenio agarici cujusdam putridi adnascens vidi. Julio" (Schum.).

Mucedineae—Phragmosporae.

Microcera.

3262. **Microcera coccophila** Desm., Syll. IV [727], Ldau IX [508]. Lit: Stewart 10 [321], Tul. Carp. III [105].

On *Coccus* sp. upon branches of *Corylus avellana*. S. Avderød Skov near Arresø ($^{4}/_{7}$ 98 see R 99 a [266]).

Fusarium.

Our knowledge to this form-genus is at present very deficient and it is necessary to await further critical study before forming any final judgment according the limitation of the separate species of this large form-genus.

3263. **Fusarim larvarum** Fuckel, Syll. IV [709], Ldau IX [580].

On dead leaves of *Melolontha*. S. København ($^{29}/_{9}$ 1893).

3264. **Fusarium Kühnii** (Fuckel) Sacc., Syll. IV [714], Ldau IX [536].

On *Xanthoria parietina* and other lichens common (see R 97 o).

3265. **Fusarium ustilaginis** Kell. & Swingle, Syll. X [728], Syn: Fus. ust. R 90 e [137], Ldau IX [584], see tab. IX, ? Fus. heterospora Haszlinsky 64 [173].

In his diary Rostrup describes the conidia as "fusiformibus, utrinque acutissimis, 3—5-septatis, 40—50 μ × 4—5 μ" (conf. the fig. on tab. IX).

On *Ustilago grandis* on *Arundo*. J. Viborg $^{12}/_{8}$ 89.

3266. **Fusarium equiseticola** All., Syll. XIV [1128], Ldau IX [537].

On dead stems of *Equisetum fluviatile*. B. Almindingen (Exc. $^{16}/_{5}$ 11).

3267. **Fusarium strobilinum** Corda, Syll. IV [704], Ldau IX [538].

On dead cones of *Pinus montana*. J. Aalykke (Fritz).

3268. **Fusarium blasticola** Rostrup 95 c, 02 a [600], Syn: Fusoma parasiticum Tub. 95, Lit: Tub. 02 [168] c. icon., R 96 q [123], 02 q.

On seedlings of *Pinus montana*. J. Fredericia ($^{22}/_{6}$ 95 C. Mariboe), Vonsild.

Fusarium heleocharidis Rostrup nom. nud., Ldau IX [587].
"In spiculis *Scirpi palustris* socia *Sclerotii Clavicipitis nigricantis*". F. Klingstrup (Sept. 82. Exs. Thüm. no 2185).

3269. **Fusarium nivale** (Fries) Sorauer, Syll. XVIII [675], Ldau IX [541], R 02 a [600], Syn: Lanosa nivalis Fries S. V. [495], ? Fusarium nivale Ces., Syll. X [726], Sneuld (Schouw 45), Sneskimmel (R 79 c, 81 a [95], 02 a [342]), Lit: R 93 d, M. L. M. 11 b.
Very common, February—April, especially on *Secale cereale* and *Triticum sativum*, also on *Hordeum sativum hibernum, Lolium multiflorum* etc.

3270. **Fusarium heterosporium** Fries S. M. III [472], Syll. IV [695], Ldau IX [539].
Secale cereale. J. Gaardbogaard (M. L. M.). *Molinia coerulea*. S. Tokkekøb Hegn ([24]/10 97 O. R.).

3271. **Fusarium miniatulum** Sacc., Syll. IX [727], Ldau IX [545].
Secale cereale. J. Krabbesholm ([19]/10 98!).

3272. **Fusarium avenaceum** (Fries) Sacc., Syll. IV [713], Ldau IX [540], Syn: Fusisporium av. Fries S. M. III [444], Fusarium tritici Drejer & Liebm. 40 [515], Ørsted 63 [112] c. icon., Fus. tritici Er., Syll. X [726], Fus. graminum Corda, Syll. IV [707], Ldau IX [540], Fus. graminearum Schwabe, Sarcopodium avenaceum Fries S. V. [472], R 82 b, Havrens Tapstøv (H. 37 [900]), Havrehat (R 71 [71], 82 b), Sædens Slimskimmel (R 93 d [141—364]).
A true parasite (see R 93 c [633], 93 d [143] c. icon., 03 d [364], 02 a [599]), common on many different species of Gramineae: to be sure a common name for many different forms. Recorded on *Glyceria distans, Hordeum arenarium* & *sativum, Avena sativa, pratensis, Dactylis, Festuca pratensis, Lolium multiflorum, Triticum junceum, sativum, polonicum, Alopecurus geniculatus* etc.

3273. **Fusarium roseum** Fries S. M. III [471], Syll. IV [699], Ldau IX [519].
On seeds of *Triticum sativum*. S. Lyngby (M. L. M.). *Carex paniculata*. F. Tange Aa. *Trifolium pratense*. S. Øresundshøj. *Rosa villosa*. J. Sæby Kurhus. *Buxus sempervirens*. S. Kobenhavn!.

3274. **Fusarium cerealis** (Cooke) Sacc., Syll. IV [713].
Zea mays. S. Kobenhavn. Nov.

3275. **Fusarium lateritium** Fries S. M. III [470], Syll. IV [694], Ldau IX [526].
Conidiis fusoideo-arcuatis, 40—45 μ × 4 μ; 3—5-septatis.
On branches of *Salix*. J. Brædstrup (W. Mark). *Morus rosea* & *nigra*. F. Brændeskov; S. Landbohøjskolens Have. *Robinia pseudacacia*. S. Frederiksberg.

3276. **Fusarium salicis** Fuckel, Syll. IV [698], Ldau IX [549].
On dead twigs of *Salix purpurea*. J. Albæk Plantage. *Salix viminalis*. S. Lersøen.

3277. **Fusarium pallens** (Fries) Sacc., Syll. IV [695], Ldau IX [523], Syn: Volutella pal. Fries S. M. III [468].
Populus alba. S. Hornbæk. *Populus tremula*. Hornbæk Plantage.

3278. **Fusarium album** Sacc., Syll. IV [698], Ldau IX [527].
On bark of *Ulmus*. S. Søndermarken. *Cytisus*. S. Frederiksberg.

3279. **Fusarium urticearum** (Corda) Sacc., Syll. IV [698], Ldau IX [552] c. icon.
Morus nigra. S. Vanløse ($^{17}/_{7}$ 07!).

3280. **Fusarium candidum** (Fries) Sacc., Syll. XVIII [674], Syn: Fusidium cand. Link, Fries S. M. III [481], Ldau VIII [61], Fusarium Willkommii Ldau IX [551], Myxosporium mali Rostrup not Bresadola see pag. 172.
On branches of *Fagus silvatica, Pirus malus* etc., common (Exs. Vgr. no 1547).

3281. **Fusarium oxysporum** Fries S. M. III [471], Syll. IV [705], Ldau IX [525].
Roripa armoracia. S. København. *Cucumis melo* on the stems. S. Brønshøj; Amager etc.

3282. **Fusarium brassicae** (Lib.) Cooke, Syll. IV [701], Ldau IX [556], Turnipsens Slimskimmel (R 93 d [140], 02 a [599], 99 j etc.).
Very common on stems and roots of many species of *Brassica*.

3283. **Fusarium sarcochroum** (Desm.) Sacc., Syll. IV [695], Ldau IX [523] c. icon.
On dead twigs of *Sophora japonica*. S. Helene Kilde.

3284. **Fusarium vasinfectum** Atk. var **pisi** van Hall, Ldau IX [563]. St. Hanssyge.
Quite common on *Pisum sativum* (M. L. M. 09 [127]).

3285. **Fusarium leguminum** (Cooke) Sacc., Syll. IV [712].
Vicia faba. S. Lyngby (Joh. Friis). *Vicia erviliae*. F. Skaarup (Octob. 81).

3286. **Fusarium dianthi** Prill. & Delacr., Syll. XVI [1100], Ldau IX [555], Lind 10 k.
Dianthus caryophyllus. S. Vanløse ($^{16}/_{10}$ 10!), København!.

3287. **Fusarium pelargonii** Crouan, Syll. IV [717].
On stems of *Pelargonium* cult. S. Hellerup ($^{2}/_{4}$ 02 Hjort).

3288. **Fusarium pyrochroum** (Desm.) Sacc., Syll. IV [694], Ldau IX [525].
On branches of *Sambucus nigra*. F. Skaarup. *Rubus idaeus*. S. Førslevgaard!.

3289. **Fusarium tuberculariodes** (Corda) Sacc., Syll. IV [697], Ldau IX [560], Lit: Wulff 08 a.
Quite common on diseased branches of *Rubus idaeus*.

3290. **Fusarium pirinum** (Fries)!, Syn: Fusisporium pyrinum Fries S. M. III [445], Fusarium apiogenum Sacc., Syll. IV [717], Ldau IX [557].
On fruit of *Pirus malus* & *communis*. J. Balskov!, Greisdalen!; F. Odense; S. København. June—October.

3291. **Fusarium mali** All., Syll. IX [650], Ldau IX [557].
On branches of *Pirus malus*. J. Brønderslev (Spejlborg).

3292. **Fusarium heteronemum** Berk. & Br., Syll. IV [712].
On dead fruit of *Pirus communis*. S. Vedbæk (Sept. Engelsen).

3293. **Fusarium fructigenum** Fries S. M. III [471], Syll. IV [717].
On hips of *Rosa inermis*. S. Hæsede Planteskole. Sept.

3294. **Fusarium sambucinum** Fuckel, Syll. IV [695], Ldau IX [578].
On dead twigs of *Sambucus nigra*. J. Viborg ($^{15}/_{5}$ 03!).

3295. **Fusarium cucumerinum** Berk. & Br., Syll. IV [718].
On dead fruit of *Cucumis melo*. S. Boserup ($^{1}/_{11}$ 88).

3296. **Fusarium aurantiacum** Fries S. M. III [471], Syll. IV [720], Ldau IX [527], Melonskimmel (R 02 a [59], 02 p).
On leaves, stems and fruit of *Cucumis melo*. F. Brahesborg (May. Buchholz).

3297. **Fusarium solani** (Mart.) Sacc., Syll. IV [705], Ldau IX [575] c. icon., Kartoflens Slimskimmel (R 02 a [598], 03 d [371]).
On tubers of *Solanum tuberosum*. S. Storeklint (Jan. 97 Th. Leth), Storehedinge (Jørgensen).

Tuberculariaceae—Dematieae.

Epicoccum.

3298. **Epicoccum equiseti** Berk., Syll. IV [741], Ldau IX [603].
Equisetum fluviatile. S. Gammelmosen (R 06 cc), København (O. R.).

3299. **Epicoccum agyroides** Corda, Syll. IV [738], Ldau IX [604].
On wood of *Pinus silvestris*. F. Trolleborg; S. København. *Fagus silvatica*. S. Jægersborg Hegn.

3300. **Epicoccum nigrum** Link, Syll. IV [736], Ldau IX [598] c. icon.
On leaves of *Pinus montana*. J. Viborg Plantage. On stems of *Hedera helix*. F. Bakkehus (C. J. Johansson $^{1}/_{8}$ 83).

3301. **Epicoccum neglectum** Desm., Syll. IV [737], Ldau IX [579], Syn: Ep. tritici Ørsted 63 c [113] c. icon.

Arundo phragmites. S. Gammelmosen (R 06 cc). *Zea mays*. S. Landbohøjskolens Have. *Triticum sativum* (Ørsted).

3302. **Epicoccum purpurascens** Ehrb., Syll. IV [736], Syll. IX [595].

Lycopodium clavatum. S. Geelskov. *Lycopodium selago*. J. Dronninglund Storskov ([27]/6 83). *Picea excelsa*. S. Tisvilde. *Juncus bufonius*. S. Gammelmosen (R 06 cc). *Sorghum*. S. Landbohøjskolens Have. *Solanum tuberosum*. S. Lyngby!. *Helianthus annuus*. S. København (O. R.).

3303. **Epicoccum scabrum** Corda, Syll. IV [739], Ldau IX [600].

Triodea decumbens. F. Skaarup.

3304. **Epicoccum vulgare** Corda, Syll. IV [737], Ldau IX [596].

Setaria italica. F. Skaarup.

Hymenopsis.

3305. **Hymenopsis typhae** (Fuckel) Sacc., Syll. IV [745], Ldau IX [616] c. icon.

Typha angustifolia. S. Lyngby Mose ([11]/9 87 O. R.).

Myrothecium.

3306. **Myrothecium verrucaria** Fries S. M. III [217], Syll. IV [750], Ldau IX [623].

On old paper. S. Lyngby Mose ([25]/5 11!).

3307. **Myrothecium roridum** Fries S. M. III [217], Syll. IV [750], Ldau IX [622] c. icon.

On dead wood. S. Charlottenlund (Ørsted). *Trifolium pratense*. S. Øresundshøj. *Viola tricolor*. F. Skaarup.

Hymenella.

3308. **Hymenella arundinis** Fries S. M. II [234], Syll. XVI [1105], Ldau IX [629] c. icon., Syn: Hymenopsis ar. Sacc., Syll. IV [745].

Arundo phragmites. S. Gribskov (O. R.), Utterslev Mose (O. R.), Brønshøj.

Exosporium.

3309. **Exosporium glomerulosum** (Sacc.) Höhnel, Syn: Clasterosporium glom. Sacc., Syll. IV [392], Ldau IX [14] c. icon., Coryneum juniperinum Ellis, Syll. III [781], ? Exosporium deflectens Karsten, Syll. X [739] (see v. Höhnel 09 [412]).

On dead leaves of *Juniperus communis*. J. Viborg!; Falst. Stubbekøbing.

3310. **Exosporium hysterioides** (Corda) Höhnel, Ldau IX [634], Syn: Hormiscium hyst. Sacc., Syll. IV [264], Ldau VIII [600], Cryptocoryneum fasciculatum Fuckel, Syll. IV [395], see v. Höhnel 02 [1035].

On bark and wood of *Betula alba*. S. Geelskov (O. R.), Sorø [15]/4 81 (V. Sarauw. On wood of *Fagus*. S. Tokkekøb Hegn (O. R.), Dyrehaven (O. R.), Lyngby!. *Quercus robur*. F. Klingstrup. *Sorbus aucuparia*. J. Dronninglund Storskov!.

3311. **Exosporium tiliae** (Fries) Link, Syll. IV [755], Ldau IX [638] c. icon., Syn: Helminthosporium tiliae Fries S. M. III [360].

Very common on bark of dead branches of *Tilia europaea*, Octob.—May.

Spegazzinia.

3312. **Spegazzinia ammophila** Rostrup 96 m [136] c. icon., Syll. XIV [1132], Ldau IX [645] c. icon.

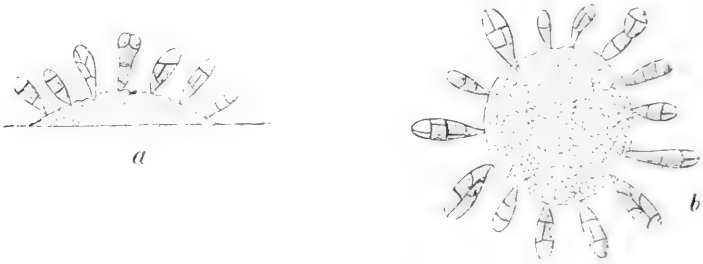


Fig. 41. Spegazzinia ammophila.

Stromata gregaria, convexa, nigra, 45—80 μ diam. Conidia sessilia, varia, fusca, 18—26 μ × 8—16 μ, 1—3-septata vel ad modum Sarcinae 4—6 cellularia. R.

Very common on dead leaves of *Calamagrostis arenaria* & *Hordeum arenarium* (see R 99 a [275] & 99 b. Exs. Kab. & Bub. no 500).

Mycelia sterilia.

Rhizoctonia.

3313. **Rhizoctonia violacea** Tul., Syll. XIV [1175], Ldau IX [684], Syn: Rhizoc. crocorum Pers., Fries S. M. II [265], Rhizoc. medicaginis de C., Fries S. M. II [265], Almindelig Rodfiltsvamp (R 93 d [120] c. icon.), Lit: R 78, 84 j, 85 n, 85 h, 86 d, 86 k, 88 a [386], 89 g, 90 l, 94 e [600] c. icon., 94 g, 02 a [592], Johansen 86.

This fungus occurs upon the roots of many different plants. It is a pest of importance in forest tree nurseries as well as in the field. The first Danish specimens is found by P. Nielsen on Daucus at the year 1878. It was quite common throughout the country upon roots

of Trifolium in the years 1884—86, and again in 1889 but in recent years it is never found again on Trifolium. Rostrup has described an ascigerous form (called Trichosphaeria Rostrupii Berl. & Vogl., Syll. IX [602]) as belonging to Rhizoctonia.

Recorded on *Abies alba, Picea alba & excelsa, Pinus montana, nigra, austriaca, Phleum pratense, Fagus silvatica, Rumex crispus, Beta sativa, Brassica napus, Geranium pusillum, Crataegus monogyna, Trifolium hybridum, pratense, repens, Medicago lupulina & sativa* (M. L. M. 07 [131] & May 11), *Daucus carota* (R 97 i), *Solanum tuberosum, Fraxinus excelsior, Ligustrum vulgare.*

3314. **Rhizoctonia fusca** Rostrup 93 d [125] c. icon., 94 e c. icon., 02 a [595], Turnipsens Rodfiltsvamp.

Myceliis rotundatis, teuissimis, 3—4 mm diam., saepe confluentibus. Hyphis fuscis, septatis, ramosis, ad sepimentis constrictis.

On roots of *Brassica campestris rapifera, Daucus carota, Beta sativa.* S. Hørsholm (R. Teglbjærg), Lyngby (K. H.).

3315. **Rhizoctonia solani** Kühn, R 93 d [124], 02 a [595] c. icon., 03 d [370], Lind & Ravn 10 [67], Kartoflens Rodfiltsvamp.

I have never found this Rhizoctonia in company with Hypochnus solani (see pag. 354).

Upon tubers of *Solanum tuberosum,* quite common.

3316. **Rhizoctonia muscorum** Fries S. M. II [265].

On moss. S. Gilleleje (May 97 L. K. R.).

Anthina.

3317. **Anthina flammea** Fries S. M. III [283], Syll. XIV [1185].

On fallen leaves of *Fagus silvatica.* S. Bidstruphegn.

3318. **Anthina penicillata** Fries S. M. III [286], Syll. XIV [1185], Ldau IX [698], Syn: Clavaria pen. Bull., Schum. no 2025, Fl. D. tab. 2273 fig. 2.

On fallen leaves of *Quercus robur.* S. (Schum.). October.

Rhacodium.

3319. **Rhacodium cellare** (Fries), Syll. XIV [1189], Ldau IX [702], Schum. no 2178, Fl. D. tab. 1361, Syn: Antennaria cellaris Fries S. M. III [229], Ørsted 39 [78], Kjelder Filtvæv (H. 37 [893]), Lit: Schroeter 84.

Common on wine-casks and wine-bottles into wine-cellars (Schum., H.).

3320. **Rhacodium vulgare** Fries Obs. I [215], El. II index [151], Syn: Rhacodium nigrum (Link) Schum. no 2185, Syll. XIV [1189], Ldau IX [703].

To be sure the mycelium of Rosellinia aquila etc.

On fallen twigs, not uncommon.

Fig. 42. Radulum aterrimum.
From R 02 a.

Himantia.

3321. **Himantia candida** Fries El. I [206], Syll. XIV [1194], Ldau IX [711].
On fallen leaves of *Fagus silvatica*. Bidstruphegn. October.

3322. **Himantia plumosa** Schum. no 2165, Syll. XIV [1195], Ldau IX [711].
S. "Inter corticem et lignum arborum subputridorum nec non in truncis cavis putridis haec elegans species nascitur. Per totum annum." (Schum. 1803 [443]).

3323. **Himantia globulifera** Schum. no 2166, Fl. D. tab. 2099 fig. 1, Syll. XIV [1195], Ldau IX [712].
"Humo vegetabile in truncis cavis arborum immixta. Per totum annum." (Schum.).

Radulum.

3324. **Radulum aterrimum** Fries S. M. I [416], Syll. VI [497], Syn: Eutypa hydnoidea (Fries) Höhnel 09 [1464], Sphaeronema hydnoideum Fries 17, Eutypa spinosa R 02 a [475] c. icon. not Sacc.
I am not able to find out the perithecia which v. Höhnel describes, and I will for the present prefer to call it by its Friesian name although it is to be sure no Radulum.
Very noxious on branches of *Betula verrucosa*. J. Feldborg (Heilmann), Rindsholm; F. Einsiedelsborg ([28]/7 93 J. Bang); S. Tisvilde (F. K. R.), Gribskov (C. F.), Grydebjerg Skov (A. Holten); B. Slotslyngen (Exc. [17]/5 1911).

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Abbreviations.

Annal. Bot.	Annals of Botany.
Annal. Myc.	Annales Mycologici. Berlin.
Annal. Sci. nat.	Annales des Sciences Naturelles. Botanique. Paris.
Arb. Kais. Biol.	Arbeiten aus der biologischen Abteilung für Land- und Forstwirtschaft am Kaiserlichen Gesundheitsamte. Berlin.
Bergens Aarb.	Bergens Museums Aarbøger. Bergen.
Ber. D. B. Ges.	Berichte der Deutschen Botanischen Gesellschaft. Berlin.
Bidrag Känned. Finl.	Bidrag til Kännedom af Finlands Natur och Folk. Helsingfors.
Bihang Vet. Hand.	Bihang till kong. svenska Vetenskaps-Akademiens Handlingar. Stockholm.
Bot. Cent.	Botanisches Centralblatt. Jena.
Bot. Gaz.	The Botanical Gazette. Chicago. Ill.
Bot. Tids.	Botanisk Tidsskrift. København.
Bot. Zeit.	Botanische Zeitung.
Bull. Soc. Bot.	Bulletin de la Société Botanique de France. Paris.
Bull. Soc. Myc.	Bulletin de la Société Mycologique de France.
Cent. Bakt.	Centralblatt für Bakteriologie, Parasitenkunde etc. Abt. II. Jena.
G. T.	Gartner-Tidende. København.
Giorn. Bot.	Nuovo Giornale Botanico Italieno. Nuovo Serie. Firenze.
Jahresber. ang. Bot.	Jahresbericht der Vereinigung für angewandte Botanik. Berlin.
Journ. Bot.	Journal de Botanique.
Journ. of Bot.	The Journal of Botany. London.
Journ. Myc.	Journal of Mycology.
Medd. Faun. Flor.	Meddelelser af soc. pro Fauna & Flora Fennica. Helsingfors.
Mitt. Kais. Biol.	Mitteilungen aus der Kaiserl. biologischen Anstalt für Land- und Forstwirtschaft. Berlin.
Nova acta Leopold.	Nova acta physico-medica Academiae Caesareae Leopoldino-Carolinae naturae curiosorum. Norimbergiae.

Ov. Vid. Selsk.	Oversigt over Det Kgl. Danske Videnskabernes Selskabs Forhandlinger. København.
Sitzber. Ak. Wien.	Sitzungsberichte der Kaiserl. Akademie der Wissenschaften in Wien. Mathem.—Naturwissenschaftlichen Klasse.
Sv. Bot. Tid.	Svensk Botanisk Tidskrift. Stockholm.
Tids. Planteavl.	Tidsskrift for Landbrugets Planteavl. København.
Tids. pop. Nat.	Tidsskrift for populære Fremstillinger af Naturvidenskaberne. København.
Tids. Skovbrug.	Tidsskrift for Skovbrug. København.
Tids. Skovvæsen.	Tidsskrift for Skovvæsen. København.
Tijds. Plantenziekt.	Tijdschrift over Plantenziekten. Wageningen.
Trans. Brit.	Transactions of the British Mycological Society. Worcester.
Ug. Ld.	Ugeskrift for Landmænd. København.
Verh. Brb.	Verhandlingen des Botanischen Vereins der Provinz Brandenburg.
Verh. Wet.	Verh. der Koningl. Akad. van Wetens. te Amsterdam. Naturh. Afd.
Vid. Forh.	Kongl. Videnskabs-Selskabs Forhandlinger. Christiania.
Z. Forst. & Jagd.	Zeitschrift für Forst- und Jagdwesen.
Z. Pf.	Zeitschrift für Pflanzenkrankheiten. Stuttgart.
Öfv. Vet.	Öfversigt af Kgl. Vetenskaps-Akademiens Förhandlingar. Stockholm.
Öst. Bot. Zeit.	Österreichische Botanische Zeitschrift. Wien.

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— n. — Exkursion til Jægersborg Hegn. — Meddelelser fra den bot. For. II. p. 135.
— o. — Vegetationen paa Fænø. — Meddelelser fra den bot. Forening. II. p. 137–140.
— p. — En Sygdom hos Vindruer. — G. T. 1890, p. 163.
— 91 a. — Plasmodiophora Brassicae paa Turnips. — Medlemsblad for Landboforeningen Vendsyssel. 16/1 91. p. 1337–1338.
— b. — Taphrinaceae Daniae. 3 fig. — Vid. Medd. fra den naturhist. For. 1890, p. 246–264.
— c. — Angreb af Snyltesvampe i danske Skove i Aarene 1889–1890. — Tids. Skovvæsen 1891. III A. p. 85–95.
— d. — Phyllosticta Camelliae. — G. T. vol. 7 135. (19/8 91).
— e. — Lophodermium pinastri. — G. T. 19/8 1891, p. 136.

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— g. Taphrina deformans & Aecidium Grossulariae. — G. T. vol. 7 no 26.

— h. — Oversigt over de i 1890 indløbne Forespørgsler. — Tidsskrift for Landøkonomi. vol. 10 [498—514].

— i. — Exkursionen til Kjøge. — Medd. fra den bot. For. II. p. 191.

— j. — Exkursionen til Ruderhegn [28/9] 1890. — Do. II. p. 198.

— k. - Destruction des cryptogames nuisibles. 6 p. — Rapport de M. E. Rostrup à Congres international d'agriculture à la Haye en 1891. in extenso in Roumeguère: Revue mycolog. Jan. 1892. p. 29—33.

— l. - Ascomyceter fra Dovre. — Chria. Vid. Selsk. Forhandlinger 1891. p. 1—14.

— m. Uromyces Betae. — Vort Landbrug, p. 774—775.

— n. Svampene (Fungi). — in Warming's systematiske Botanik, p. 79—164.

— 92 a. — Tillæg til Grønlands Svampe. — Meddelelser om Grønland. III. p. 593—643.

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— d. Knoldforraadnelse hos Kartofler. — Aarsberetning om det kgl. danske Landhusholdningsselskabs Virksomhed 1891—92, p. 70.

— e. - Urocystis occulta. — Ug. Ld. vol. 37 [15] c. tab. color.

— f. Brand i Hvede, Byg og Havre. — Ug. Ld. vol. 37 [45] c. tab. color.

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- h. Exkursion til Sorø. — Medd. fra den bot. For. Juli 1892. p. II.

— i. Exkursion til Frederiksdal. — Do. do. p. VI.

- j. Plantesygdomme i Haverne i 1890—1891. — G. T. vol. 8 p. 49—52, 57—60, 65—67 c. icon.

- k. Peridermium Wolffii. - G. T. vol. 8, p. 101—102.

l. Chloridium polysporum paa Agurker. — Do. p. 112.

m. Nectria ditissima paa Pærekviste. — Do. p. 195. Annoncetillæget.

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o. Taphrina deformans paa Nectariner. — Do. p. 231.

- p. Peronospora Cytisi n. sp. — Z. Pf. vol. 2 [1—2] c. icon.

R 92 q. E. Rostrup: Rosers Behandling med Bordeauxvædske. — Nationaltidende. 10/6 1892.

— r. — Skimmel, Meldug og Rust paa Roser. — Dansk Havebrugs-Tidende no 10 15/10 1892 p. 80.

— s. — Snyltesvampenes Forhold til indbyrdes nærstaaende Værtplanter. — Forhandlinger ved de skandinaviske Naturforskeres 14. Møde i København 4.—9. Juli 1892. p. 457.

— t. — Sygdomme hos Æbletræet. — Bredsted: Haandbog i Dansk Pomologi. Bd. II, p. XXXIII—XXXVII.

— u. — Floritisk Skitse af Rørvig-Egnen. — Bot. Tid. vol. 18, p. XXIV—XXV.

— v. — Misdannelser hos Planterne. — Naturen & Mennesket vol. VII 290, vol. VIII 73 & 176.

— 93 a. — Angreb af Snyltesvampe paa Skovtræer i 1891—1892. Tids. Skovvæsen. vol. 5 B 97—117.

— b. — De i Danmark paa Leddyr optrædende Snyltesvampe. Vid. Medd. fra den naturhist. For. i København 1893, p. 78—95. 1 fig.

— c. — Oversigt over de i 1892 hos Markens Avlsplanter optraadte Sygdomme. — Tidsskrift for Landøkonomi. V R. Bd. 12, p. 625—644.

— d. — Sygdomme hos Landbrugsplanter. 37 fig. 170 p. 8 °.

— e. — Exkursion til Skjelskør. — Medd. fra den bot. For. p. XXXV—XXXVI.

— f. Exkursion til Lillerød. — Do. p. XXXVI—XXXVII.

— g. Beretning til Finansministeriet om en Rejse til Odsherred Skovdistrikt i Oktober 1893. 5 p. 4 °.

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— i. Monilia fructigena paa Æblegrene. — Do. vol. 9, p. 112.

— j. — Septoria paa Selleri. — Do. p. 180.

— k. — Scolicotrichum melophtorum, Cystopus candidus, Fumago Camelliae, Phoma & Fumago vagans. — G. T. p. 189—191.

— l. Scleroderma vulgare. — Do. p. 88.

— m. Ustilago bromivora. — Landmands-Blade no 49, p. 831.

— n. — Rhizoctonia paa Gulerod. — Frøtidende. Aarg. V. 15/12 1893. p. 21.

— o. Sygdomme hos Stenfrugttræerne. — Bredsted: Haandbog i Dansk Pomologi. vol. 3 14—21.

— 94 a. Oversigt over Landbrugsplanternes Sygdomme i 1893. Tids. Planteavl 1894 no 10.

— b. — Phoma sanguinolenta. — Z. Pf. vol. 4 195—196 c. icon.

— c. Phoma Angriff bei Wurzelgewächsen. — Z. Pf. vol. 4 322—323.

R 94 d. E. Rostrup: Øst-Grønlands Svampe. — Meddelelser om Grønland. XVIII. 40 pag.

— e. — Landbrugsplanternes Fjender af Plante- og Dyreriget. — Landmandsbogen. Bd. I, p. 572—619. 1 tab. colorat & 3 fig.

— f. — Mykologiske Meddelelser. IV. — Bot. Tids. Bd. 19, p. 36—47, avec résumé français p. 48—51. Kbh. April 1894.

— g. Rhizoctonia violacea. — G. T. 1894, p. 59.

— h. — Peronospora sparsa. — Do. p. 70.

— i. — Phytophtora infestans. — Do. p. 71.

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— l. — Et Par Sygdomme hos Æbletræer. — Do. p. 164.

— 95 a. — Mykologiske Meddelelser. V. — Bot. Tid. vol. 19 201—214. Résumé français p. 215—218.

— b. Forskellige Kemikaliers Anvendelse mod Sygdomme hos Haveplanter. — G. T. p. 70—71, 76—78, 83—85.

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— g. Sygdom paa Camellia-Blade. — Do. 4/4 95. Annoncetillæget.

— h. Monilia fructigena paa Kirsebærgrene. — 13/6 95. Annoncetill.

— i. — Puccinia Rubigo paa Rug. — Do. 4/7 95. Annoncetill.

— j. — Exkursion til Lyngby. — Bot. Tids. vol. 19, p. XVI—XVII.

— k. — Exkursion til Køge. — Do. vol. 19, p. LIII—LIV.

— l. — Extra-Exkursionen 19/5 1895. — Do. vol. 20, p. IV.

— m. Exkursion til Frederiksdal. — Do. vol. 20, p. IX.

— n. — Oversigt over Landbrugsplanternes Sygdomme. — Tids. Planteavl 1895. II. p. 40—71.

— 96 a. Phoma sanguinolenta. 1 fig. — G. T. vol. 10, p. 45—47.

— b. Leptosphaeria vagabunda. — Do. do. p. 80.

— c. Peronospora sparsa. Do. do. p. 90.

— d. Coryneum Beyerinckii. — Do. do. p. 103.

— e. Fumago vagans. — Do. do. p. 184—185.

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— g. Botrytis cinerea. — Do. do. 26/3. Annonceafdelingen.

— h. Trametes radiciperda paa Hvidtjørn. — Do. do. 9/7. Annonceafd.

— i. Septoria brachyspora paa Ficus elastica. — Do. do. 10/9. Annonceafd.

— j. Phoma paa Vitis. Do. do. 24/9. Annonceafd.

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— m. — Mykologiske Meddelelser. VI. — Bot. Tids. vol. 20 $^{126-136}$ & Résumé français p. 137—139. Ref. in Bot. Centralbl. Bd. 8 (1899) p. 298—299.

— n. — Oversigt over Sygdommenes Optræden paa Landbrugets Avlsplanter i Aaret 1895. — Tids. Planteavl. vol. 3 $^{123-150}$.

— o. — Værtplantens Indflydelse paa Udviklingen af nye Arter af parasitiske Svampe. — Ov. Vid. $^{113-134}$.

— p. — Plasmodiophora Brassicae. — Medlemsblad for Viborg Amts landøkonomiske Forening & Nationaltidende $^{1}/_{11}$ 1896.

— q. — Angreb af Snyltesvampe paa Skovtræer i 1893—95. — Tids. Skovvæsen. vol. 8 $^{107-124}$.

— r. — Svampe fra Færøerne Bot. Tids. vol. 20 $^{157-158}$. April 1896.

— 97 a. — Sygdomme hos Syringa. — G. T. p. 211—212.

— b. — Fumago paa Vinstok. — Do. $^{11}/_{3}$. Annoncetillæget.

— c. — Gymnosporangium Sabinae & Myxomyceter. — Do. $^{5}/_{8}$. Annoncetill.

— d. — Puccinia Baryi. — Do. $^{23}/_{9}$. Annonceafd.

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— g. — Rust paa Piletræer. — Do. p. 630.

— h. — De nyeste Opdagelser og Synspunkter vedkommende Rust paa Sæden. — Tids. Planteavl. vol. 4 $^{69-82}$.

— i. — Oversigt over Landbrugsplanternes Sygdomme i 1896. — Tids. Planteavl. vol. 4 $^{83-104}$.

— j. — Meddelelse om nogle Forsøg vedkommende Sygdom hos Byg. — Tids. Planteavl. vol. 4 $^{131-134}$.

— k. — De nyeste Erfaringer vedkommende Rust paa Sæden og heraf følgende Indflydelse paa eventuelle Lovbestemmelser. — Ug. Ld. p. 637—639 & Beretning om de samvirkende sjællandske Landboforeningers Virksomhed i Aaret 1897 p. 82—85.

— l. — Lovbestemmelser om Berberissen. — Beretning om Foreningen af jyske Landboforeningers 23. Delegeretmøde, p. 39—41. Aarhus 1898.

— m. — Mykologiske Meddelelser VII. — Bot. Tids. vol. 21, p. 37—49. Kbh. Juni 1897.
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— n. — Excursionen til Skovene ved Borup og Alindelille d. 19.—20. Juni 1897. — Do. Bd. 21, p. XXII—XXIII.

— o. — Excursionen til Hørsholm og Folehave. $^{3}/_{10}$ 1897. — Bot. Tids. Bd. 21, p. XXVII—XXVIII.

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— c. — Bekæmpelse af Snyltere paa Kulturplanterne. — Beretning om Fyens Stifts patriotiske Selskabs 12. Delegeretmøde i Odense $^{26}/_{11}$ 1898, p. 103—107.

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— h. Sclerotinia Fuckeliana paa Rødgran. — Do. $^{26}/_{5}$. Annoncetill.

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— b. — Om Lovforanstaltninger mod Snyltesvampe og Ukrudt. — Tids. Planteavl. vol. 7 33—40.
— c. — Den i Danmark udfoldede Virksomhed til Bekæmpelse af Plantesygdomme i de sidste 50 Aar. Om Landbruget i Danmark. Translated into French: L'agriculture en Danemark. Kbh. & Paris 1900.
— d. — Syge Tulipaner. — G. T. 15/2. Annoncetillæget.
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— 01 a. — Oversigt over Landbrugsplanternes Sygdomme i 1900. — Tids. Planteavl. vol. 8 109—128.
— b. — Bedens Bakteriose. — Ug. Ld. 12/7 01 298, also in Landmandsblade 13/7 p. 344 & 3/8 p. 377, Landbobladet 2/8 p. 249, Nationaltidende 12/7, Andelsbladet no 24.
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— n. — Fungi from the Färöes. reprinted from the: Botany of the Färöes, p. 304—316.
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— c. — Oversigt over Landbrugsplanternes Sygdomme i 1901. — Tids. Planteavl. vol. 9 115—134.
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— e. — Fungi. In Thorild Wulff: "Bot. Beobacht. am Spitzbergen". p. 1902. Lund.
— f. — Phragmidium Rosae & Puccinia Ribis. — Nationaltidende 27/7 1902.
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— f. — Norske Ascomyceter. — Chria. Vidensk. Selskabs Skrifter 1904, p. 1—44.
— g. — Fungi Groenlandiae orientalis in expedionibus G. Amdrup. 1898 - 1902. Meddelelser om Grønland. vol. 30 113—121.
— h. — Macrosporium Pelargonii. — G. T. 21/1. Annonceafd.
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— d. — Sphaerella Abietis paa Ædelgran. — Tids. Skovvæsen. vol. 17 A 37—41 & G. T. no 25 7/12 05, p. 226—227.
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Errata.

Page 72, no 102. "Also on filtering paper . . .". Is to strike.
— 96, — 229 for pustu*ll*ata read pustu*l*ata.
— 111, — 314 for Syn: Sclerotium quercinum *Schum.* read Syn: Scl. querc. *Pers. non Schum.*
— 124, — 390 for torula read torula*e*.
— 125, — 409 for agrostematis read agrostem*m*atis.
— 128, — 430 & 431 is two very doubtful species which are to be conferred with no 1618 and 1629.
— 133, — 467 for fascicular*is* read fasciculare.
— 134, — 469 for pice*a* read pice*ae*.
— 151, — 557 for P*i*nus read P*i*rus.
— 178, — 694 to be added: Its conidial stage is called Sphacelia segetum Lév., Syll. IV[666], Ldau IX[458].
— 193, — 791 is identical with no 796.
— 194, line 22 for Cucurbitaceae read Cucurbita*ri*aceae.
— 208, no 894 for vulneraria read vulnari*ae*.
— 217, — 952 for *fluviatile* read *hiemale*.
— 218, — 959 is identical with no 961.
— 219, — 968 is identical with no 982.
— 228, — 1043 is identical with no 1045.
— 230, line 26 read Massaria macros*pora* corresp. to Scol. fagi (see Schroeter 08[315]).
— 232, — 30 & 31 are to strike (see Wolf 12b and Kleb. 08b).
— 233, no 1076 & 1077 for M*amm*iania read M*a*miania.
— 235, — 1090 for Syn: Gnomoni*ell*a dev. read Gnomonia dev.
— 236, — 1099 for capre*a* read capre*ae*.
— 236, — 1100 for ceu*t*ocarpa read ceu*th*ocarpa.
— 245, — 1179 for *o*thoceras read *or*thoceras.
— 274, — 1331 to be added: Syn: Perisporium alismatis Fries S. M. III[252], Wt. II[69].
— 283 to be added: no
1346a. **Cronartium flaccidum** (Alb. & S. 1805) Wt., Syn: Cron. asclepiadeum (Willd. 1806) Fries, Peridermium

Cornui Kleb., R 89 b [250], Aecidium Cornui Rostrup 90 a [188] c. icon., 02 a [313] c. icon., 06 dd [374], Rørrust Ørsted 63 c [94] c. icon., Lit: Liro 08 [449], Klebahn 05 b [83].

St. I on *Pinus silvestris* and *montana*, st. II-III on *Paeonia officinalis* and *Asclepias vincetoxicum*, quite common, especially on the Isle of Bornholm, the first Danish specimens are recorded from Fredriksværk June 1882 (see R 83 d [210]).

Page 293, no 1378 add.: Syn: Pleosporopsis strobilina (A. & S.) Ørsted 67 c, Syll. III [693], All. VII [304].

— 332, line 19 for *bulbosus* read *auricomus*.

— 363, no 1716 is identical with no 1728.

— 366, line 14. Clavariaceae is to strike.

— 368, no 1745. The line: "Surely no Clavaria species, rather any lichen" is belonging to Clavaria byssiseda.

— 370, — 1757 Syn: Clavaria penicillata . . . is to strike.

— 382, — 1845 Syn: Boletus placenta . . . is to strike.

— 385, — 1862 for *Polyp.* igniarius read *Boletus* igniarius.

— 388, — 1872 is identical with no 1882.

— 501, — 1971 for mammo*sum* mammo*sus*.

— 422, — 2174 is identical with no 2780.

— 482, — 2741 & 2742 for Naemaspora read Naemospora.

— 497, — 2849 for Amblyo*steg*ium read Amblyo*spor*ium.

— 501, — 2885. The name Botrytis parasitica is formerly used by Fries for no 62, acordingly I shall propose the name Botrytis tulipae for the present species.

— 519, — 3058 is also recorded from Germany and Brazil (see Lindner in Ber. d. Deutsch. Bot. Ges. 1909 [530]).

— 540 — 3231 for stemonit*is* read stemonit*es*.

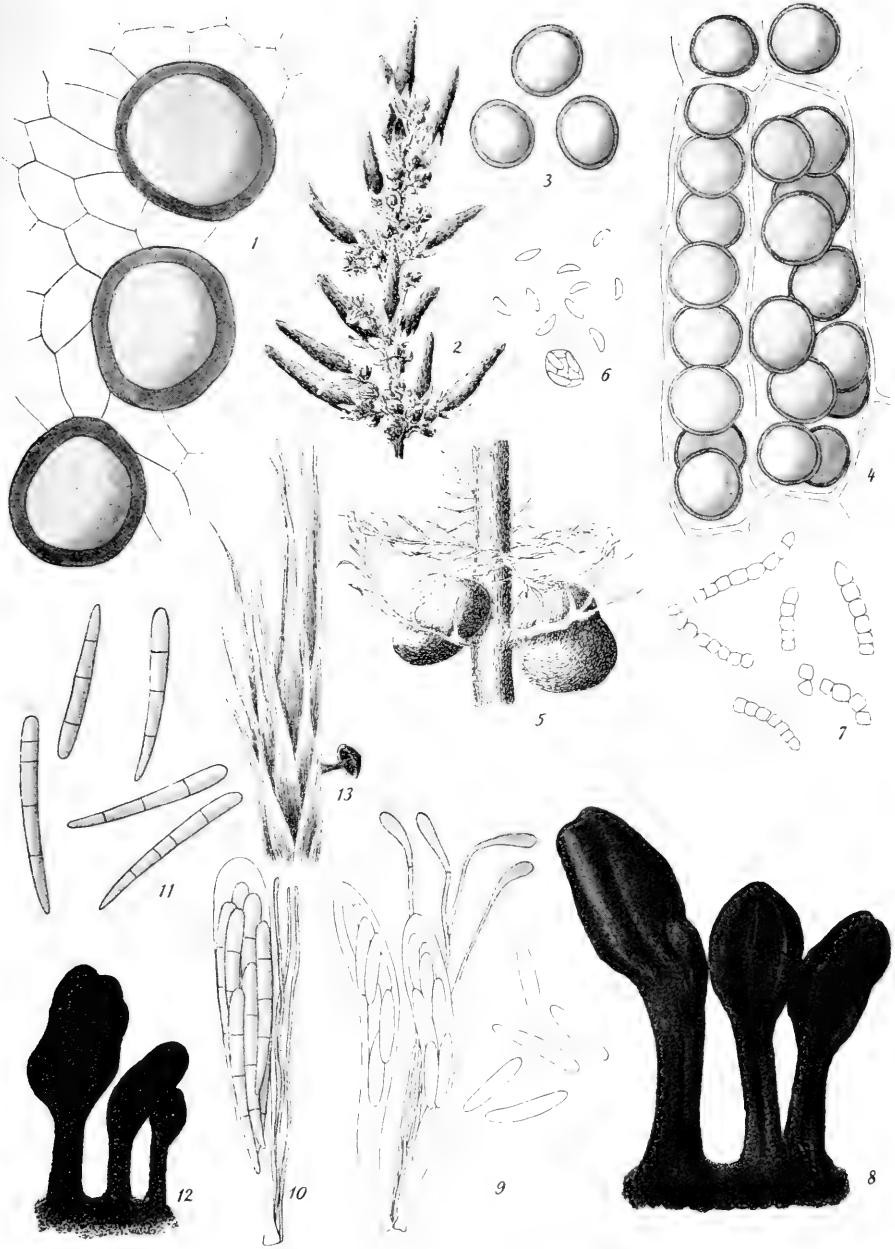

Fig. 1: Physoderma deformans Rostrup, sp. $\frac{400}{1}$. — Fig. 2-3: Physoderma acetosellae Rostrup, hab.$\frac{4}{1}$ & sp. $\frac{400}{1}$. — Fig. 4: Physoderma hippuridis Rostrup, sp. $\frac{400}{1}$. — Fig. 5: Physoderma myriophylli Rostrup,$\frac{2}{1}$. — Fig. 6: Gymnoascus assicola Rostrup, $\frac{400}{1}$. — Fig. 7: Geotrichum candidum Fries $\frac{400}{1}$. — Fig. 8—9: Corynetes arenarius Rostrup, hab.$\frac{2}{1}$, asc. & sp. $\frac{400}{1}$. — Fig. 10-12: Leptoglossum littorale Rostrup asc. & sp. $\frac{400}{1}$, hab.$\frac{2}{1}$. — Fig. 13: Cudoniella minima sp. nov., hab.$\frac{7}{1}$.

O. Rostrup del.

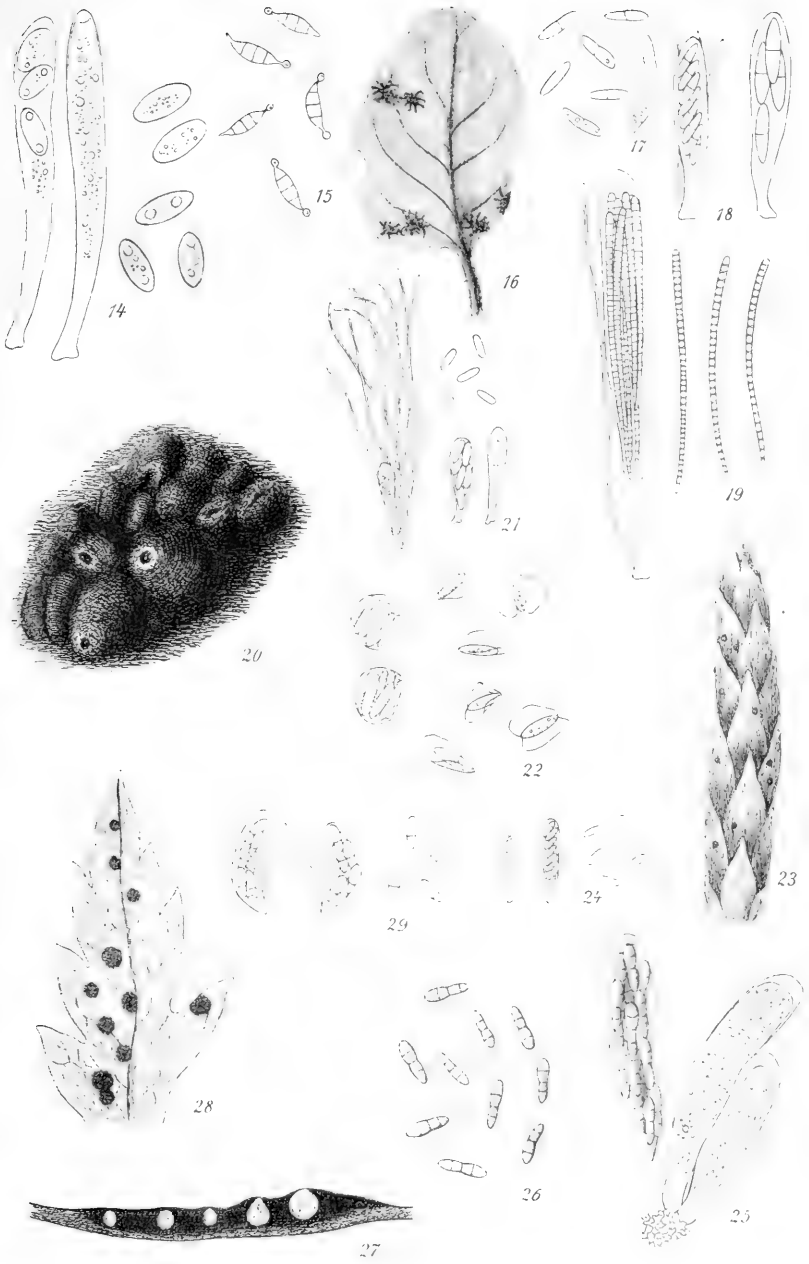

Fig. 14: Cudoniella minima sp. nov., asci & sp. $\frac{400}{1}$. — Fig. 15: Rutstroemia firma Fries, germinating ascospores $\frac{400}{1}$. — Fig. 16-18: Beloniella brunellae Lind, hab. $\frac{2}{1}$, sp. & asci $\frac{400}{1}$. Fig. 19: Scutularia multiguttulata Rostrup $\frac{400}{1}$. — Fig. 20-21: Scleroderris difformis Rostrup, perithecia $\frac{20}{1}$, asci & sp. $\frac{400}{1}$. — Fig. 22: Samarospora potamogetonis Rostrup, asci & sp. $\frac{400}{1}$. — Fig. 23-24: Myiocropon lycopodii Rostrup, on Lycopodium complanatum $\frac{2}{1}$, asc. & sp. $\frac{400}{1}$. — Fig. 25-26: Dothidea ribesia Fries $\frac{400}{1}$ (see pag. 181). — Fig. 27-29: Dothidella geranii (Fries), section $\frac{50}{1}$, hab. $\frac{2}{1}$, asc. & sp. $\frac{400}{1}$. *O. Rostrup del.*

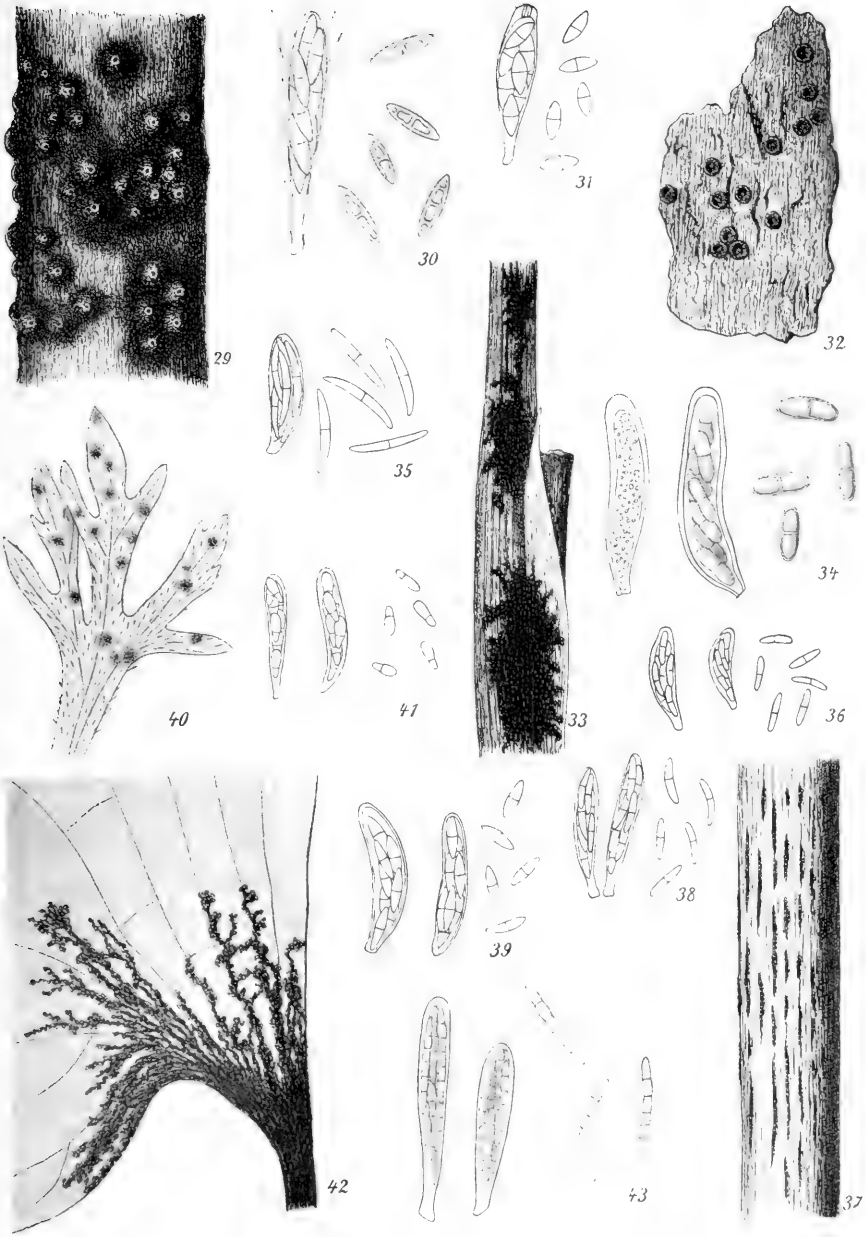

Fig. 29-30: Herpotrichia rubi Fuckel, hab. $\frac{6}{1}$, asc. & sp. $\frac{400}{1}$. — Fig. 31-32: Herpotrichia collapsa (Romell), asc. & sp. $\frac{400}{1}$, hab. $\frac{2}{1}$. — Fig. 33-34: Mycosphaerella juncaginearum (Lasch), hab. $\frac{8}{1}$, asc. & sp. $\frac{400}{1}$. — Fig. 35: Mycosphaerella ribis (Fuckel), asc. & sp. $\frac{400}{1}$. Fig. 36: Myscophaerella psammae (Rostrup), asc. & sp. $\frac{400}{1}$. — Fig. 37-38: Mycosphaerella lineolata (Desm.), hab. $\frac{7}{1}$, asc. & sp. $\frac{400}{1}$. — Fig. 39: Mycosphaerella perforans (Desm.), asc. & sp. $\frac{400}{1}$. — Fig. 40-41: Venturia glomerata Cooke on Geranium dissectum, hab. $\frac{2}{1}$, asc. & sp. $\frac{400}{1}$. — Fig. 42: Ascospora reticulata (Fries), hab. $\frac{8}{1}$. — Fig. 43: Leptosphaeria occulta spec. nov. $\frac{400}{1}$.

O. Rostrup del.

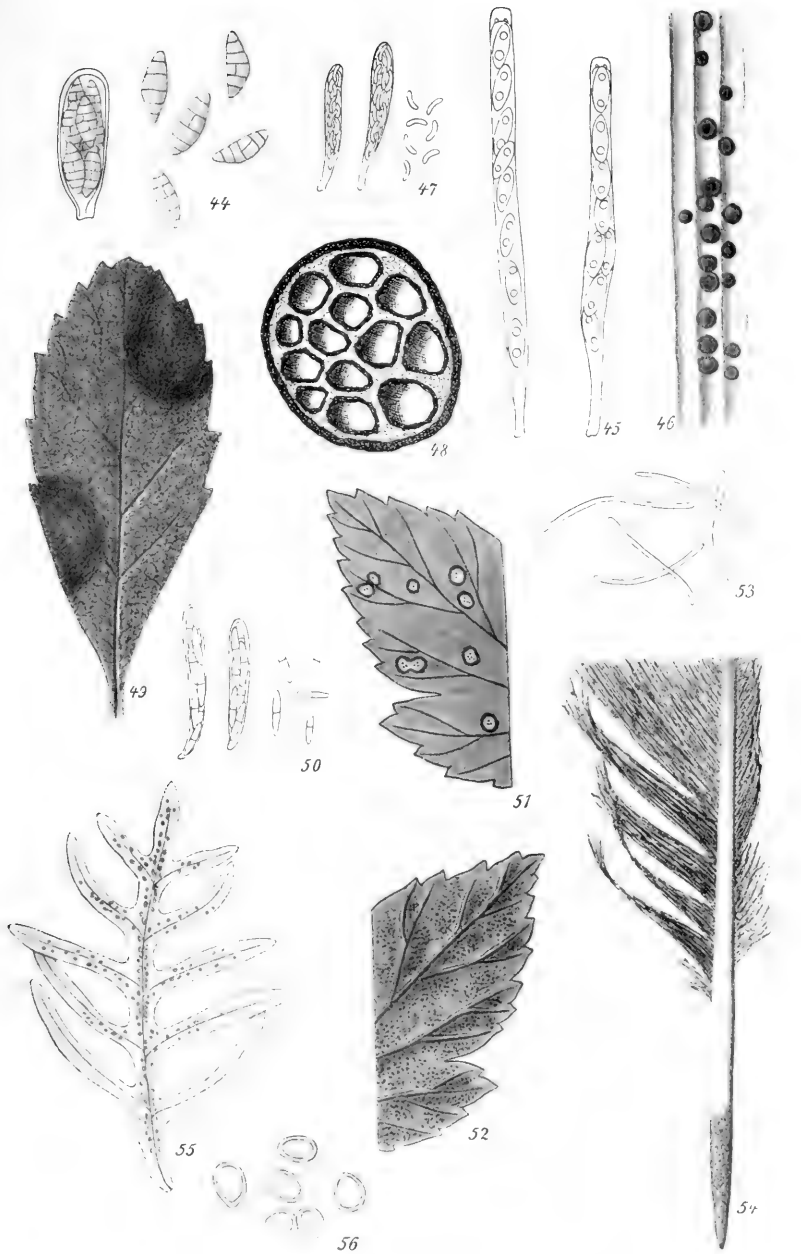

Fig. 44: Pleospora lycopodii spec. nov., asc. & sp. $\frac{400}{1}$. — Fig. 45-46: Phomatospora arenaria S. B. R., asc. & sp. $\frac{400}{1}$, hab. $\frac{8}{1}$. — Fig. 47-48: Diatrypella abietis spec. nov., asc. & sp. $\frac{400}{1}$, section of the stroma $\frac{24}{1}$. — Fig. 49-50: Stigmatea pirolae (Fries), hab. $\frac{2}{1}$, asc. & sp. $\frac{400}{1}$. — Fig. 51: Leaf of Ribes rubrum with Septoria ribis Desm. $\frac{1}{1}$. — Fig. 52: Dead leaf of Ribes rubrum with Mycosphaerella ribis Fuckel, $\frac{1}{1}$. — Fig. 53: Septoria ribis Desm., sp. $\frac{400}{1}$. — Fig. 54: Leptosphaeria corvina (Rostrup), hab. $\frac{1}{1}$. — Fig. 55—56: Doassansia hottoniae (Rostrup), hab. $\frac{4}{1}$, resting-sp. $\frac{100}{1}$.

O. Rostrup del.

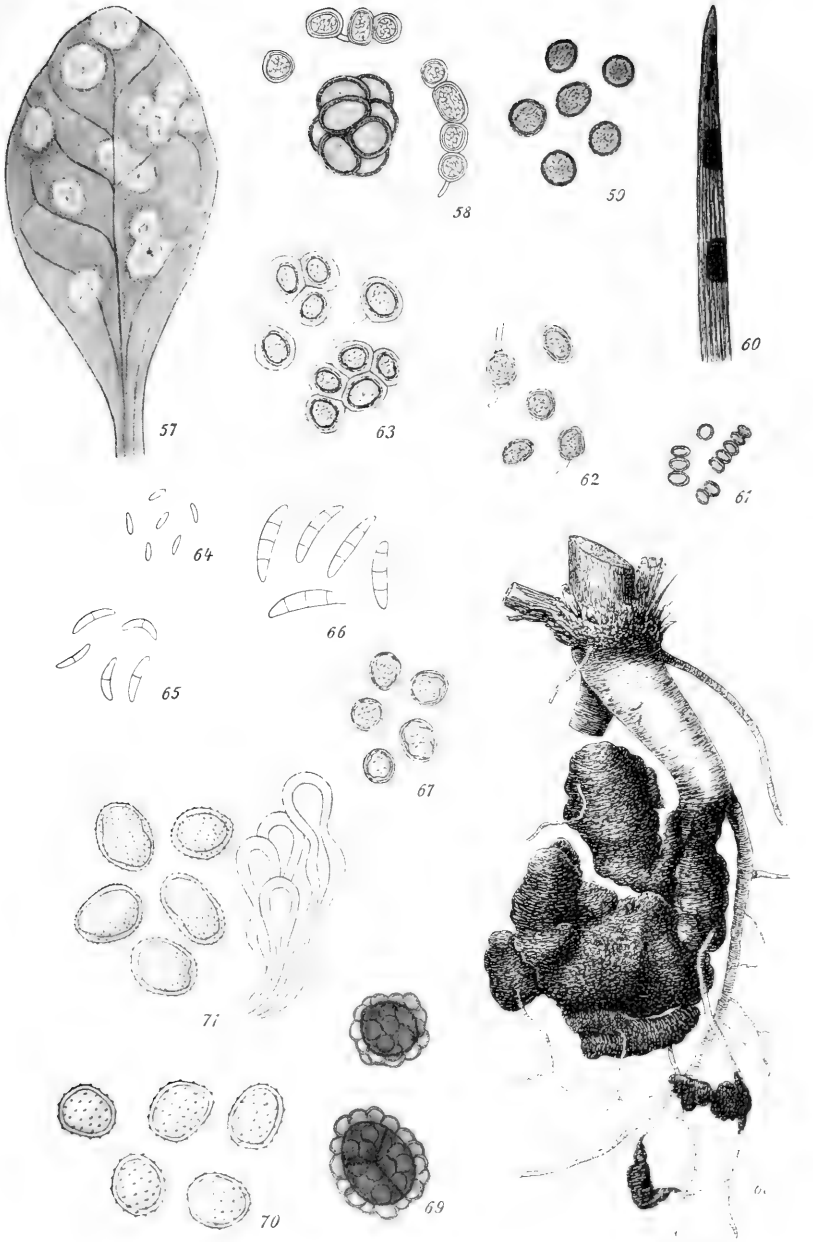

Fig. 57-58: Entyloma Henningsianum Sydow, hab. $\frac{2}{1}$, resting-sp. $\frac{100}{1}$. — Fig. 59-60: Entyloma ossifragi Rostrup, sp. $\frac{400}{1}$, hab. $\frac{1}{1}$. — Fig. 61: Entyloma catenulatum Rostrup, sp. $\frac{100}{1}$. Fig. 62: Entyloma crastophilum Sacc. from Avena pubescens, sp. $\frac{100}{1}$. — Fig. 63, Entyloma picridis Rostrup, sp. $\frac{100}{1}$. — Fig. 64-66: Entyloma matricariae Rostrup, conidia of different size $\frac{400}{1}$. — Fig. 67: Resting spores of the same, $\frac{400}{1}$. — Fig. 68-69: Urocystis coralloides Rostrup, hab. $\frac{1}{1}$, sp. $\frac{400}{1}$. — Fig. 70: Uromyces scleranthi Rostrup, uredosp. $\frac{400}{1}$. Fig. 71: Uredo glyceriae mihi $\frac{400}{1}$.

O. Rostrup del.

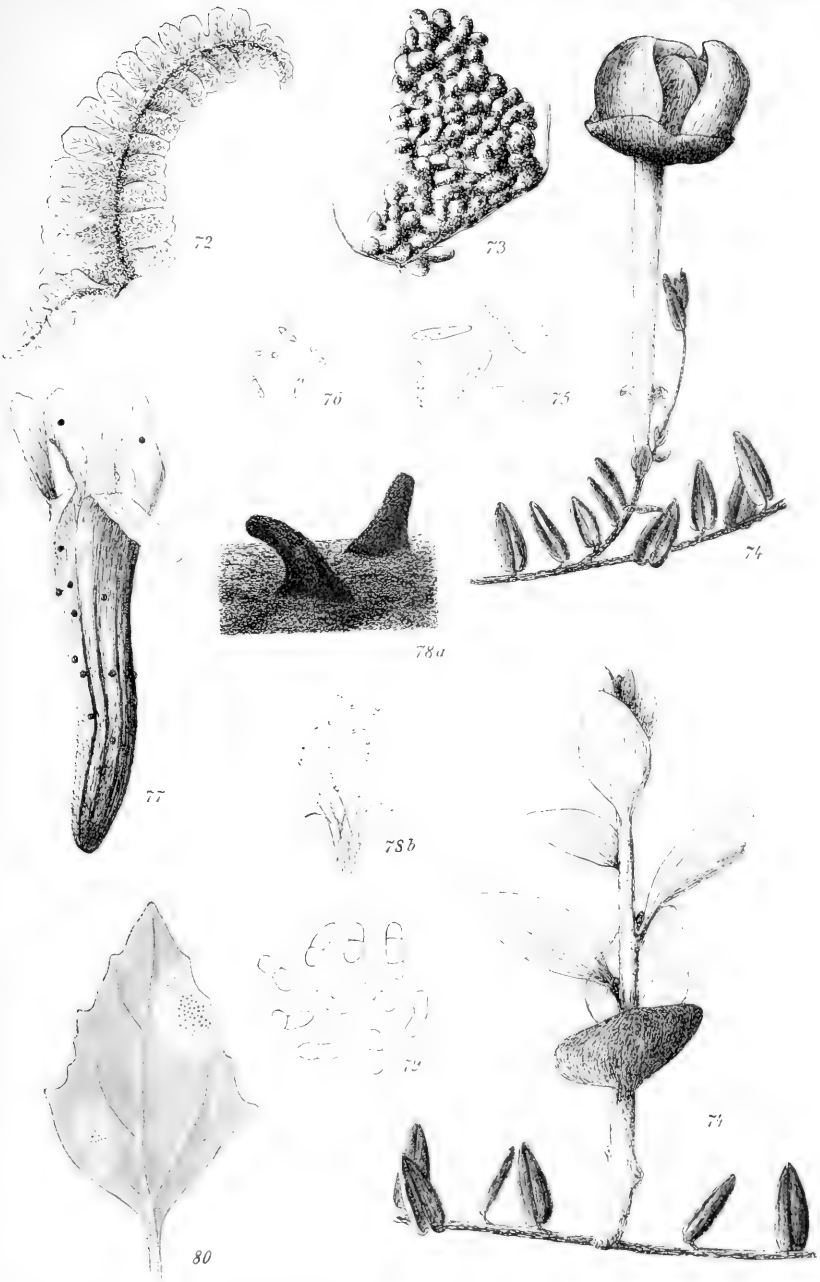

Fig. 72-73: Herpobasidium struthiopteridis (Rostrup), hab.$\frac{2}{1}$, mycelium in the cells $\frac{400}{1}$. Fig. 74-75: Exobasidium oxycocci Rostrup, hab.$\frac{2}{1}$, sp. $\frac{400}{1}$. — Fig. 76-77: Phoma Debeauxii Roum., hab.$\frac{4}{1}$, sp. $\frac{400}{1}$. — Fig. 78: Sphaeronema pseudoplatani Rostrup, hab. $\frac{40}{1}$, sp. $\frac{400}{1}$. — Fig. 79-80: Stagonospora atriplicis (West.), sp. $\frac{400}{1}$, hab.$\frac{1}{1}$. *O. Rostrup del.*

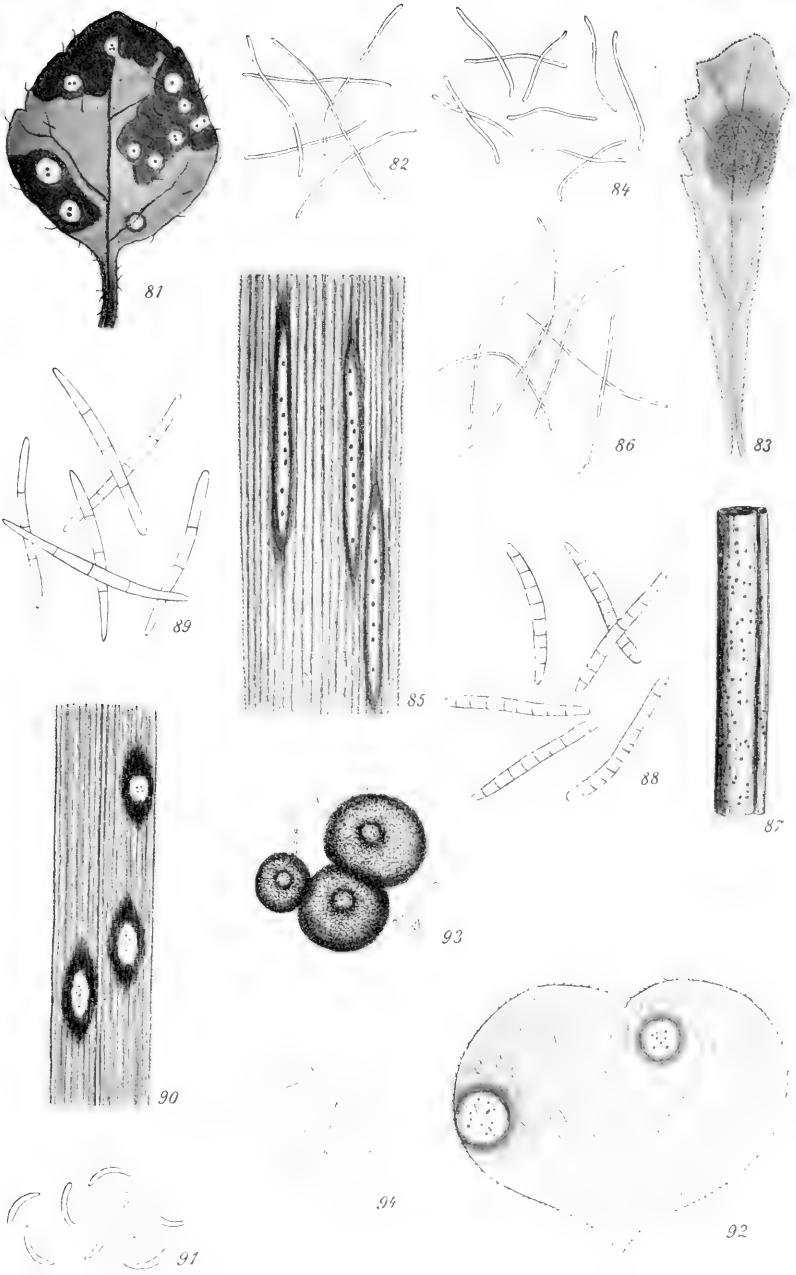

Fig. 81-82: Septoria linnaeae (Ehrb.), hab. $\frac{4}{1}$, sp. $\frac{400}{1}$. — Fig. 83-84: Septoria arnoseridis mihi, hab. $\frac{4}{5}$, sp. $\frac{400}{1}$. — Fig. 85-86: Septoria calamagrostidis (Lib.), hab. $\frac{4}{1}$, sp. $\frac{400}{1}$. — Fig. 87-88: Septoria epigejos Thümen, hab. $\frac{4}{1}$, sp. $\frac{400}{1}$. — Fig. 89: Septoria elymi Rostrup, sp. $\frac{400}{1}$. — Fig. 90—91: Septoria culmifida mihi, hab. $\frac{4}{1}$, sp. $\frac{400}{1}$. — Fig. 92-94: Septoria oxalidis sp. nov., hab. $\frac{4}{1}$, pycnidia $\frac{50}{1}$, sp. $\frac{400}{1}$.

O. Rostrup del.

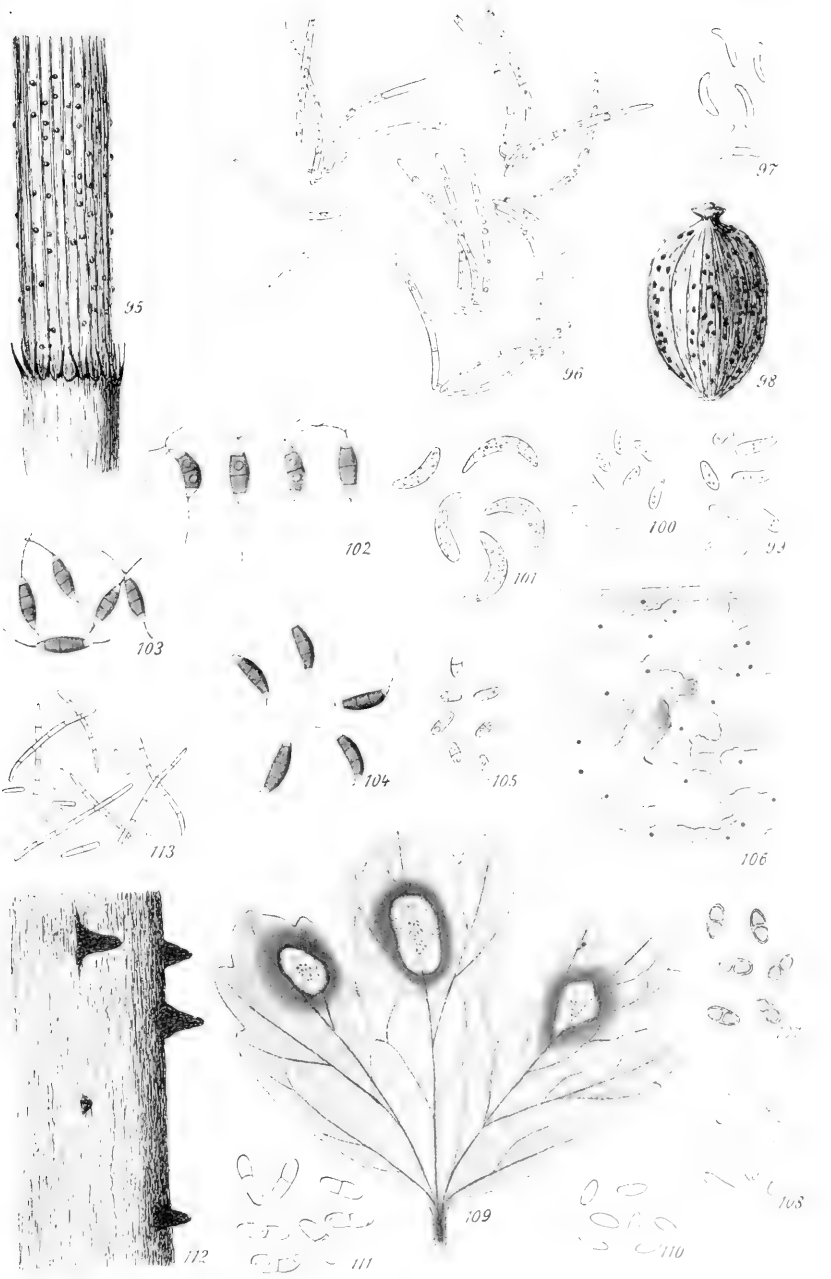

Fig. 95-96: Gloeosporium equiseti Ell. & Ev., hab. $\frac{2}{1}$, sp. $\frac{400}{1}$. — Fig. 97: Gloeosporium secalis Rostrup, sp. $\frac{400}{1}$. — Fig. 98-99: Gloeosporium achaeniicola Rostrup on the fruit of Pastinaca, hab. $\frac{2}{1}$, sp. $\frac{400}{1}$. — Fig. 100: Gloeosporium achaeniicola Rostrup on the fruit of Petroselinum, $\frac{400}{1}$. — Fig. 101: Cryptosporium turgidum B. & Br., sp. $\frac{400}{1}$ (see also tab. IX). — Fig. 102: Pestalozzia maculicola Rostrup, sp. $\frac{400}{1}$. — Fig. 103: Monochaetia coryli (Rostrup), sp. $\frac{400}{1}$. — Fig. 104: Monochaetia berberidis spec. nov., sp. $\frac{400}{1}$. — Fig. 105: Marssonina forsythiae spec. nov., sp. $\frac{400}{1}$. — Fig. 106-107: Microdiplodia betulae (West.), hab. $\frac{6}{1}$, sp. $\frac{400}{1}$. — Fig. 108: Pyrenochaeta furfuracea (Fries), sp. $\frac{400}{1}$. — Fig. 109-111: Marssonina aquilegiae (Rbh.), hab. $\frac{2}{1}$, 1-2 celled spores $\frac{400}{1}$. — Fig. 112-113: Rhabdospora tomispora Berl., hab. $\frac{40}{1}$, sp. $\frac{400}{1}$.

O. Rostrup del.

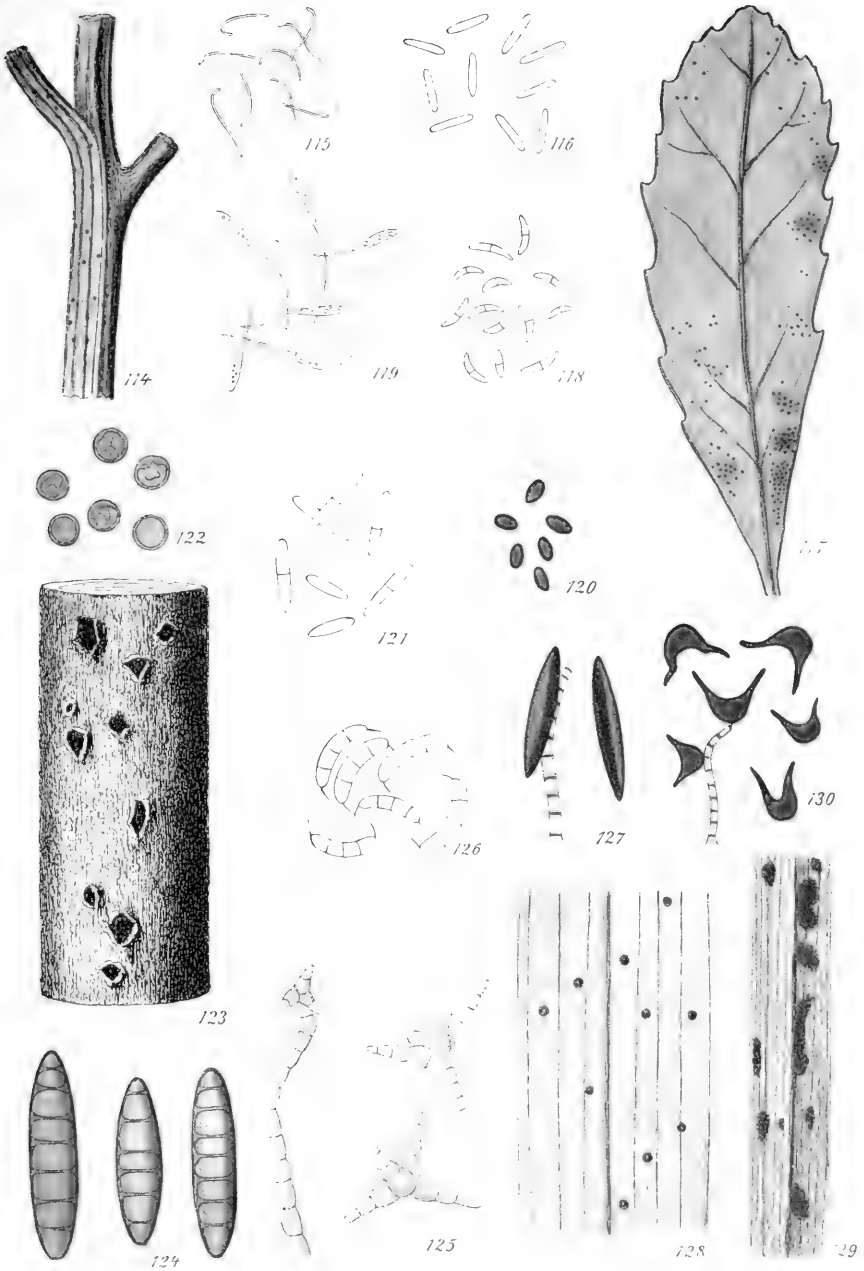

Fig. 114-115: Phomopsis achilleae (Sacc.) hab. $\frac{4}{1}$, sp. $\frac{400}{1}$. — Fig. 116-117: Leptothyrium chimophilae spec. nov., hab. $\frac{2}{1}$, sp. $\frac{400}{1}$. — Fig. 118: Fusarium ustilaginis Rostrup, sp. $\frac{400}{1}$. Fig. 119: Heteropatella cercosperma Rostrup, on Rumex acetosa, sp. $\frac{400}{1}$. — Fig. 120: Coniosporium caricis montanae Lindau, sp. $\frac{400}{1}$. — Fig. 121: Ramularia tanaceti mihi, sp. $\frac{400}{1}$. Fig. 122: Tuberculina maxima Rostrup, sp. $\frac{400}{1}$. — Fig. 123: Cryptosporium turgidum B. & Br. (from the original specimen of Cryptosp. fraxini Rostrup) hab. $\frac{10}{1}$. — Fig. 124: Helminthosporium setariae spec. nov., sp. $\frac{400}{1}$. — Fig. 125: Triposporium myrti spec. nov., sp. $\frac{400}{1}$. — Fig. 126: Menispora Libertiana Sacc. (from the original specimen of Ciliofusarium umbrosum Rostrup), sp. $\frac{400}{1}$. — Fig. 127-128: Arthrinium naviculare Rostrup, hab. $\frac{4}{1}$, sp. $\frac{400}{1}$. — Fig. 129-130: Arthrinium bicorne Rostrup, hab. $\frac{4}{1}$, sp. $\frac{400}{1}$. *O. Rostrup del.*